

FLIGHT

The
AIRCRAFT ENGINEER
AND AIRSHIPS

First Aeronautical Weekly in the World. Founded in 1909 by Stanley Spooner
A Journal devoted to the Interests, Practice and Progress of Aerial Locomotion and Transport
OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

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EDITORIAL COMMENT



RCTIC explorers now owe another debt to aircraft and to wireless. The tale of lives saved at sea by wireless is already a long one. In the Arctic ocean, however, wireless by itself would not always avail to save stranded explorers. Ships cannot always get through even when wireless has told the outside world where the stranded party is. Everyone will remember the dramatic silence after the airship *Italia* had crashed in the Arctic, followed by the even more dramatic wireless messages telling that most of the crew had survived. Then aircraft came to the rescue, and General Nobile and some of his men were removed by air. A bad landing put an end to the activities of the aeroplane in that case, but in the end other means were found to complete the rescue.

The case of the exploring ship *Chelyuskin* is still more striking, for there were 103 souls on board, including several women and children, and when the ship was crushed by the ice and sank only one life was lost. The party was marooned on breaking ice, and the difficulties of landing an aeroplane nearby and taking off again were very great. These difficulties and risks have been faced unflinchingly by five gallant Russian pilots, and by degrees the whole of the party have been rescued by air. The very greatest honour is due to these pilots, whose skill in handling their craft in very difficult conditions has been at least equal to their courage and determination.

The incident makes one think with a sigh of what might have happened if wireless and flying had been available to Franklin, Andr  e, and others who lost their lives in the Arctic. Those who have expressed the wish that the art of flying had never been discovered must surely change their opinion when they read of rescues like that of the crew of the *Chelyuskin*. Yet, every week in Australia and elsewhere doctors fly out and save the lives of patients who might otherwise have died. This is too apt to be forgotten. The aeroplane first came into importance during the war, but each year sees it become more and more an instrument of humanity.

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DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

- 1934.
- Apr. 19. "The Houston-Mount Everest Expedition." Lecture by Air Commodore P. F. M. Fellowes, before R.Ae.S.
- Apr. 22. Northamptonshire Ae.C. Tea Party and Opening of New Club Buildings.
- Apr. 23-27. 35th International Aviation Conference, Geneva.
- Apr. 26. "Landing in Fog." Lecture by Dr. R  d St  ssel before R.Ae.S.
- Apr. 27. A.I.D. Technical Staff 9th Annual Dinner, Holborn Restaurant.
- Apr. 27-May 6. International Aero Show, Geneva.
- May 7-12. International Air Post Exhibition, Royal Horticultural Hall, Westminster.
- May 10. "Speed and the Future of Commercial Aircraft." Lecture by M. Louis Breguet before R.Ae.S.
- May 17-June 2. Royal Tournament, Olympia.
- May 18. Entries close at ordinary fee for King's Cup Race.
- May 21. Air Display, Loughton Aerodrome, Essex.
- May 24. Empire Air Day.
- May 27. Deutsch de la Meurthe Cup.
- May 30. Entries close at double fee for King's Cup Race.
- May 31. "Stalling." Wilbur Wright Memorial Lecture, by Prof. B. Melvill Jones, before R.Ae.S.
- June 1. Entries close at 12 noon for London-Melbourne Race.
- June 2. Brooklands Air Race Meeting.
- June 3. London Aeroplane Club Garden Party, Hatfield.
- June 9. Reading Ae.C. Annual "At Home."
- June 16. R.A.F. Reserve Flying Club Annual Flying Display, Hatfield.
- June 23. Lancashire Ae.C. Air Display, Woodford.
- June 23. Henly Rally, Heston Airport.
- June 30. Royal Air Force Display, Hendon.
- July 3-9. 4th International Congress for Applied Mechanics, Cambridge.
- July 7. Opening of Leicester Airport.

This is the last issue of FLIGHT which will appear from the old address of 36, Great Queen Street, London, W.C.2. Our next issue will be edited at new and modern offices at Dorset House, Stamford Street, S.E.1. FLIGHT will then have crossed the river—not the Jordan, but the Thames. All Londoners will admit that if one seeks inspiration, journalistic or otherwise, by gazing at the great river of London, the view from the Surrey bank is more inspiring than that from, say, the old Air Ministry quarters in the now defunct Hotel Cecil. An illustration on another page will assure our readers that the staff of the paper will be housed in a building equipped with all modern appliances which make for good and efficient work. If we have given satisfaction in the homely building which we are now vacating, we hope to be still more worthy of our readers' support when our work is done in more spacious and under more modern conditions. We hope that our friends will soon learn their way to our new abode and will come to visit us as freely and as frequently in the future as they have done in the past.

FLIGHT'S MOVE

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Was it, we wonder, thoughts of a small force of Metropolitan Police gently dispersing a huge crowd of Communists in Hyde Park, which inspired Lord Trenchard to say, when opening the Town Headquarters of the County of Middlesex Squadron the other day, that he had never been a great advocate of counting heads, and that a really efficient squadron could go through a large amount of indifferent material (if not too greatly outnumbered) as a knife goes through butter? Certainly, during the war, Lord Trenchard contrived to make the Royal Air Force the greatest, as well as the best, air weapon in the world. Then he had no hesitation in inviting the help of Providence by amassing the proverbial big battalions. Doubtless, at the present time, too, we should all sleep a bit more easily in our beds if the squadrons of Air Defence of Great Britain were multiplied a few times.

COUNTING HEADS

Lord Trenchard, we take it, was preaching the superiority of quality to quantity, and, in rather guarded words, was doing something to allay the scare from which some people have recently suffered over the supposed defencelessness of London against air attack. To give such crumbs of comfort is good work, for scares seldom do much good, though they may sometimes egg an apathetic Government into taking a salutary interest in the defences of the country. The older heads among us recall that Lord Rosebery's Government fell on a "cordite vote," and that the pre-war Liberal Government had to give way before a popular cry of "We want eight (new battleships) and we won't wait"—a cry which probably had a good deal to do with saving the country in 1914.

The present National Government is not, we think, apathetic. It is anxious to do everything which can

be done to diminish the chances of a European war, and everyone is agreed that such an object is most worthy. The theory that the best way to reduce the danger is to achieve some measure of disarmament is not, in our opinion, sound. Mr. Baldwin himself has said that disarmament by itself will not prevent war. The only way to prevent it is to remove causes of quarrel. Mr. Baldwin has also given a solemn assurance that if all attempts at disarmament fail, then the Government will see to it that Great Britain is not left defenceless. A certain increase in the number of our Home Defence squadrons has been undertaken this year, and we understand that the moving of No. 100 (Bomber) Squadron to Singapore is officially regarded as only a temporary detachment of the squadron. We can hardly believe that any air unit which gets to Singapore will be speedily released to return to this country, and once the transference of that squadron is made permanent it will be necessary to raise another to take its place as a Home Defence squadron. That being so, this year's increase amounts to four effective squadrons, and this perhaps is a reasonable increase in the circumstances. We must build up gradually, and not in one hectic burst. We have not got the aerodromes or the barracks to accommodate at once all the squadrons which we must ultimately maintain.

Lord Trenchard also said that he firmly believed that the British Air Force (in which he obviously included the Auxiliary Air Force) was and would remain second to none in efficiency, skill, and—what he believed to be one of the greatest British characteristics—thoroughness. No one has greater experience than Lord Trenchard, and no one is in a better position to judge of such matters. His words carry great weight. Thoroughness is most certainly a characteristic of all British flying, and the craving for thoroughness was carried to such a pitch in civil flying that an outcry was raised against the restrictions of the civil side of the Air Ministry.

The simile, too, of the knife cutting through butter, was very striking. Evidently Lord Trenchard believes that a small British Air Force would be a match for many times its own numbers of foreign opponents. We believe that it would be so in one short campaign, but it would surely be dangerous for us to push this argument too far. Everyone is now thinking of the Germans and the Russians as the two possible menaces to the peace of Europe. The Russians have not yet acquired a reputation for thoroughness, but the Germans are a very thorough people. The latter do not at the moment possess an Air Force, but everyone believes that they will soon raise one. If we were ever opposed to them again—as we certainly hope that we never shall be—it would be rash to regard them as mere butter. However good our Air Force may be, we must not be content to have quality alone. Quantity is also necessary, and a steady progressive increase in numbers is what we hope to see take place in the next few years.

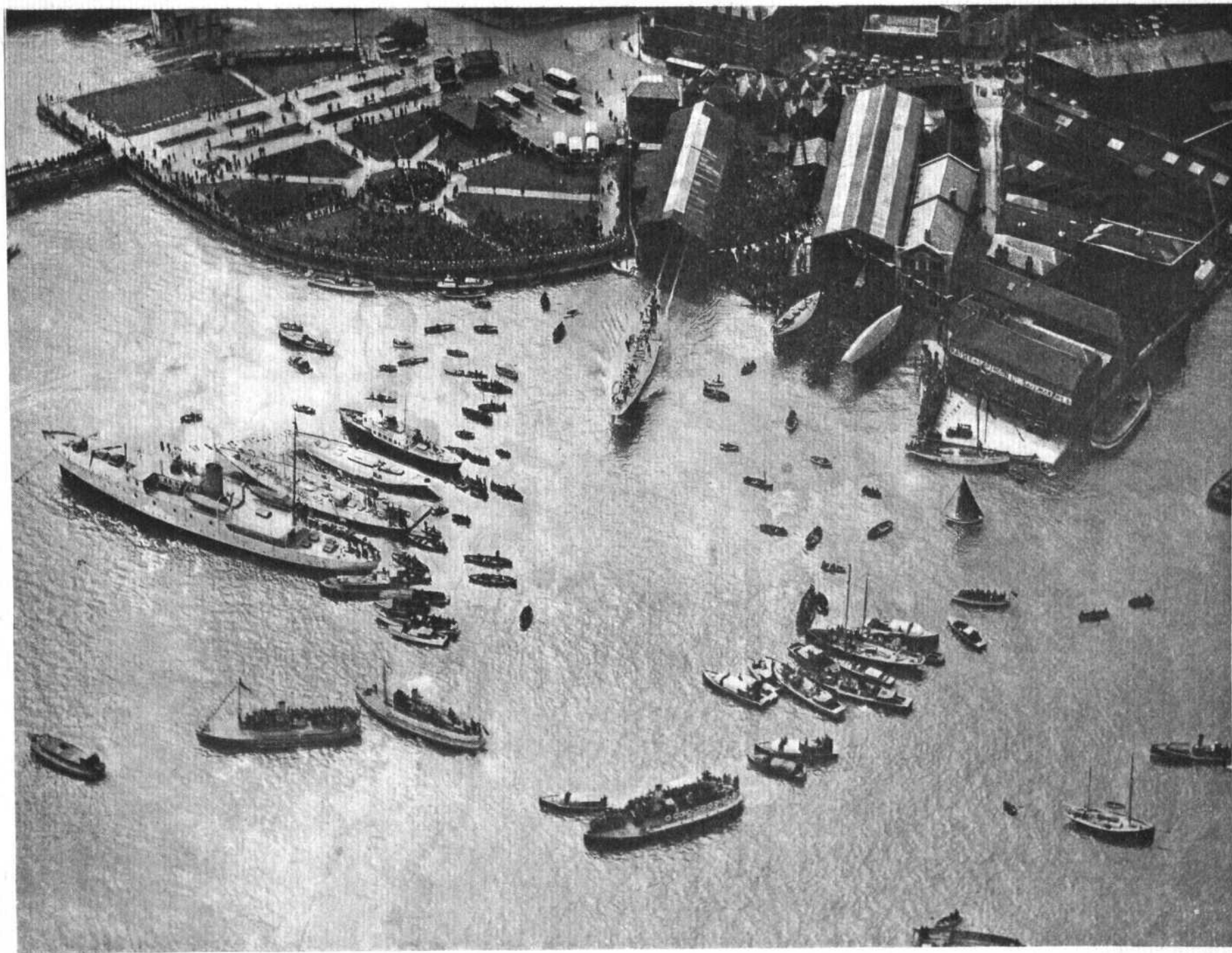
IMPORTANT NOTICE TO OUR READERS

From to-morrow, Friday, April 20th, the address of the Editorial, Advertising and Publishing Offices of FLIGHT will be: Dorset House, Stamford Street, London, S.E.1.

Telephone: HOP 3333 (50 lines).

LAUNCHING THE CHALLENGER: Mr. T. O. M. Sopwith's new all-steel "J" class racing yacht was launched from the yard of Camper & Nicholson at Gosport on April 16, Mrs. Sopwith naming the new yacht the *Endeavour*. With it Mr. Sopwith will continue the long series of challenges for the America's Cup with which the late Sir Thomas Lipton's name is so closely associated. British yachting and aviation circles will unite in wishing Mr. Sopwith success. Our photograph shows the *Endeavour* taking the water.

(FLIGHT Photo.)



At the Science Museum

THE NATIONAL AERONAUTICAL COLLECTION

IN the stately new buildings of the Science Museum at South Kensington there are many exhibits, which, if their existence were more widely known, would attract a far greater number of aviation enthusiasts than at present visits this building. We would advise our readers not to be afraid of the Museum. This warning, to those who know the Museum well, may seem superfluous, and, indeed, quite uncalled for. We will explain. There are, we feel sure, hundreds of people who thirst for knowledge of aviation, yet can find no suitable source of information. Some of these unfortunates may have heard of the Science Museum, but the impressive name, and their lack of knowledge of the nature of the contents of the building, have precluded a visit.

The Museum, being Government controlled, is, perhaps, not so widely advertised as would be privately owned collections of a similar nature. It contains exhibits illustrating the progress of every branch of science. We are concerned here with those to be found in the Aeronautical Section, or as it is known the National Aeronautical Collection. Admission is free.

On entering the galleries which contain the aeronautical collections, one is somewhat bewildered by the mass of aircraft models, engines and photographs. Individual exhibits, however, are so very well explained in semi-technical language that one is immediately put at ease and may concentrate on gleaning any desired information.

Probably the best known of the exhibits (and justly so), is the original Wright biplane, which made, according to the Museum handbook, "the first controlled and sustained flight," in December, 1903. Immediately behind this ever to be revered aircraft hangs the Vickers Supermarine S.6b (Rolls Royce "R"), which, flown by Flt. Lt. Stainforth, secured for Britain the world's speed record in September, 1931. This record, it should be remembered, is no longer ours. The impressiveness of the sight of these two aircraft is derived from their amusing juxtaposition. The Wright is on loan to the Museum for an indefinite period. Some day it may be returned to America.

The work of no early designer of importance is neglected. Henson, Stringfellow, Hargrave, Lilienthal, Chanute, Weiss, Maxim, Langley, Wright, Voisin, Farman, Santos Dumont, Blériot and Rumpler—the achievements of each of these are represented. We have no space to deal at any length with these early developments, but for the benefit of those of our readers whose enthusiasm carries them to

the study of aeronautics in the very early days, we feel that we should mention that, among recent acquisitions, is a model of Stringfellow's triplane and of its engine and boiler. An Antoinette monoplane (1910 model) which was flown in England by Hubert Latham is to be found in the collection.

The development of aircraft from 1903 to the present day is represented by a truly wonderful collection of dozens of scale models arranged in cases and liberally supplied with explanatory notes. We have often marvelled at the skill of those who reproduce in great detail the clipper ships of yesterday, with their stays, halyards, booms and all the paraphernalia found on these craft, but surely the craftsmen responsible for models of aircraft, such as the early Farman and Voisin, with their spider's webs of bracing wires, are to be equally admired.

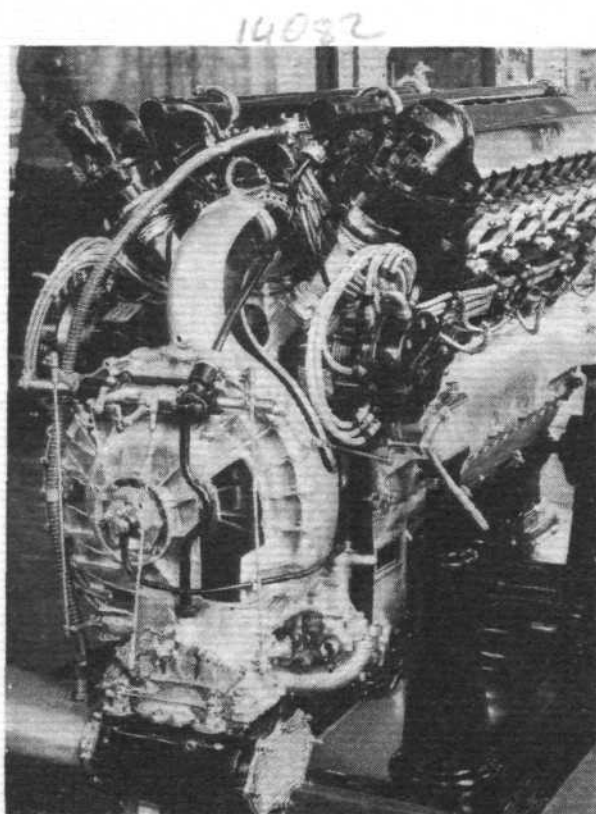
For those who, like ourselves, are attracted by anything connected with war-time aviation, the models

covering the period 1914 to 1918 should make a particular appeal.

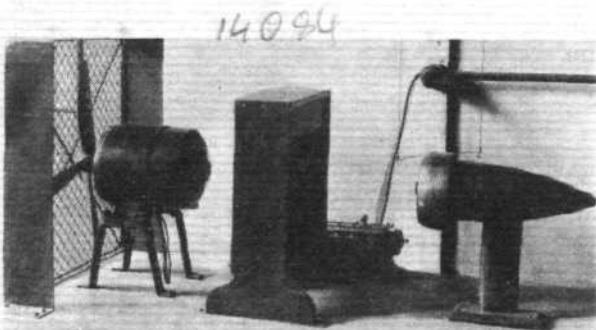
"Rumpety," "Harry Tate," "Biff," "Tripehound" and "Clutching Hand" are there, mingled with Fokker "Halberstadt," "Gotha," "Albatros," and many others. One exceptionally fine model is of a Short seaplane carrying full military load, which includes an assortment of bombs of various shapes and sizes. A Short "Shirl," one of our early torpedo carriers, is shown with a miniature 18 in. torpedo in position.

Further along in the collection are models of machines which have become famous since the war. The transatlantic Vickers "Vimy," the Gloster "Bamel," Junkers monoplane, D.H. "Moth," Macchi M.39, "Autogiro," Supermarine S.5 and S.6, Fokker VIII, A.W. "Argosy," D.H. "Hercules," H.P.42 and Dornier "Wal." Modern military types are represented by very handsome models of the Fairey 3.F., Fairey "Fox," Hawker "Hart" and "Fury," and Supermarine "Southampton." We admired particularly the Hawker "Hart," Fairey 3.F. and "Fox" models.

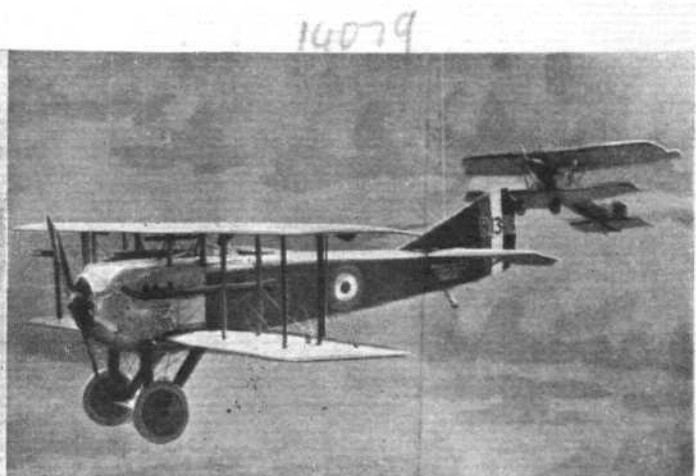
Actual aircraft which are on exhibition, besides the Antoinette already mentioned, include an early Fokker single-seater fighter monoplane (Oberursel), the transatlantic Vickers "Vimy" (2 Rolls Royce "Eagles"), the fascinating little "Wren" which appeared at the Lympne meeting in 1923, a Curtiss "Seagull" flying boat used for a survey of the upper Amazon in 1924 to 1925, and the D.H. "Moth" ("Gipsy I") *Jason I*, in which Mrs. Mollison (then Miss Amy Johnson) made her famous England-Australia flight. An



THE SUPERCHARGER END of a sectioned "Kestrel IIS." One of the most interesting exhibits in the Aero Engine Section of the Science Museum. (FLIGHT Photo.)



THE TOWNEND RING in the model shown here tends to move forward when the fan is set in motion. (FLIGHT Photo.)



NOT Flt. Lt. Bulman making a "dead stick" landing at Brooklands in a "Hart" (left), nor (right), an armoured Junkers biplane creeping up behind a careless Spad, but some of the excellent models to be seen at the Science Museum. (FLIGHT Photo.)

experimental "Autogiro" (Siddeley "Genet"), built in 1926 by A. V. Roe & Co., Ltd., and used for research at the R.A.E., and a Pterodactyl (Siddeley "Genet") are also on exhibition.

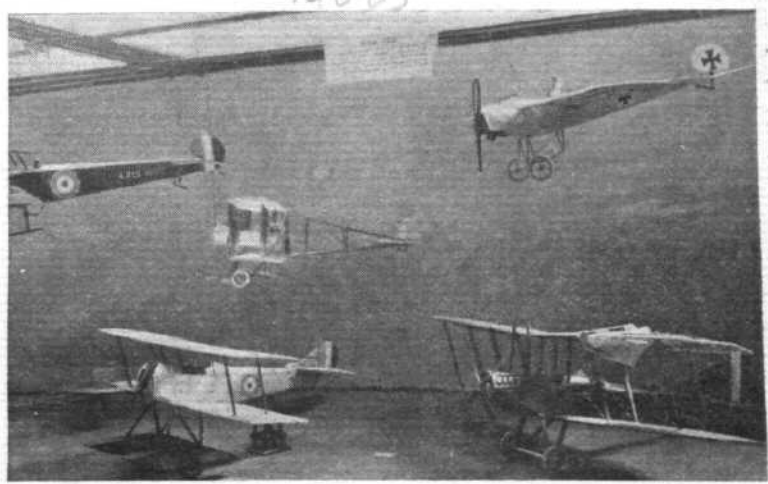
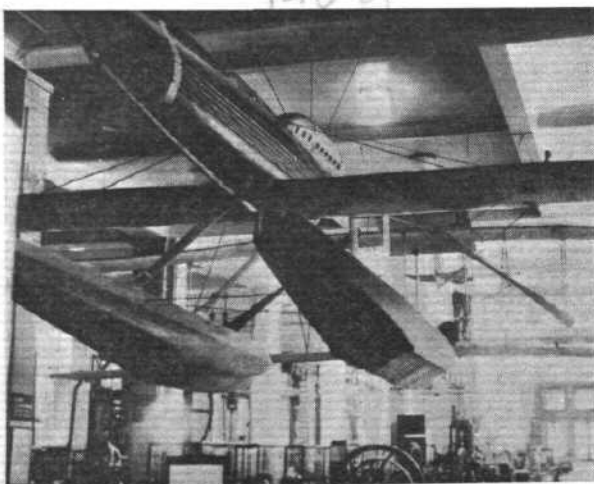
Many of the earliest efforts at aerial locomotion produced "lighter than air machines." Success in this direction may be said to have first been met by the Montgolfier brothers. Some excellent models of the Montgolfier balloons are to be found in the "lighter than air" section. Another particularly interesting effort produced in the "pre-hydrogen" period is the "Aerial Vessel" of Francesco de Lana. This was intended to float in the air by virtue of the displacement of four large copper globes from which the air had been evacuated. It was to be propelled by a sail, and the use of oars was also considered. Representing later developments is a print of Meusnier's projected airship and models of such famous craft as those constructed by Henri Giffard and Tissandier. More recent types which are represented include "La France" (1884), Lebaudy's "République" (1908), Schütte-Lanz S.L.I. (1911), Astra-Torres XIV (1913), N.S. type (1916-18), Parseval P.III (1909), Zeppelin "Sachsen" (1913), R.34 (1918), and the R.101. We wonder if this latter model will be the last British lighter than air craft to be represented in the Museum. A collection of photographs of the metalclad airship Z.M.C.-2 of the U.S. Naval Air Service, presented by Mr. Carl B. Fritsche, is on view.

There is a very wide range of aero engines of all nationalities. Some of the more recent British types include a Napier "Lion," Siddeley "Jaguar," Bristol "Jupiter," Cirrus III, and, the latest of all, a Rolls Royce "Kestrel II S" supercharged engine. Most of these engines are sectioned and slowly turned over by electric motors. Another particularly interesting engine

is a 200 h.p. Hispano-Suiza, between the cylinder banks of which is mounted a 37 mm. gun. During the war a special Beardmore W.B. machine was designed to accommodate this engine and gun. It was, however, not generally used. This exhibit is also of special interest, as 37 mm. guns are at present being revived in France and are mounted in a fashion similar to that shown.

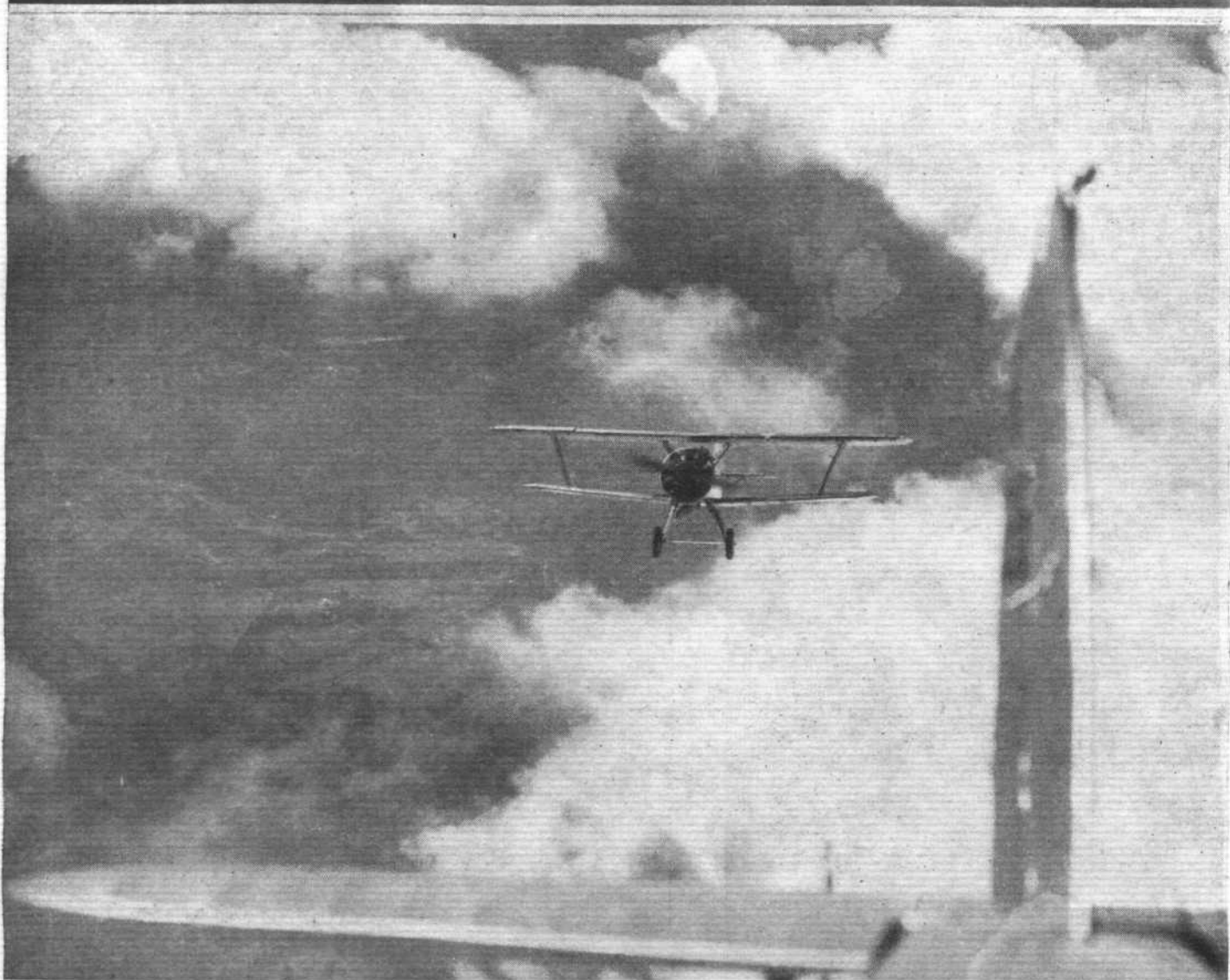
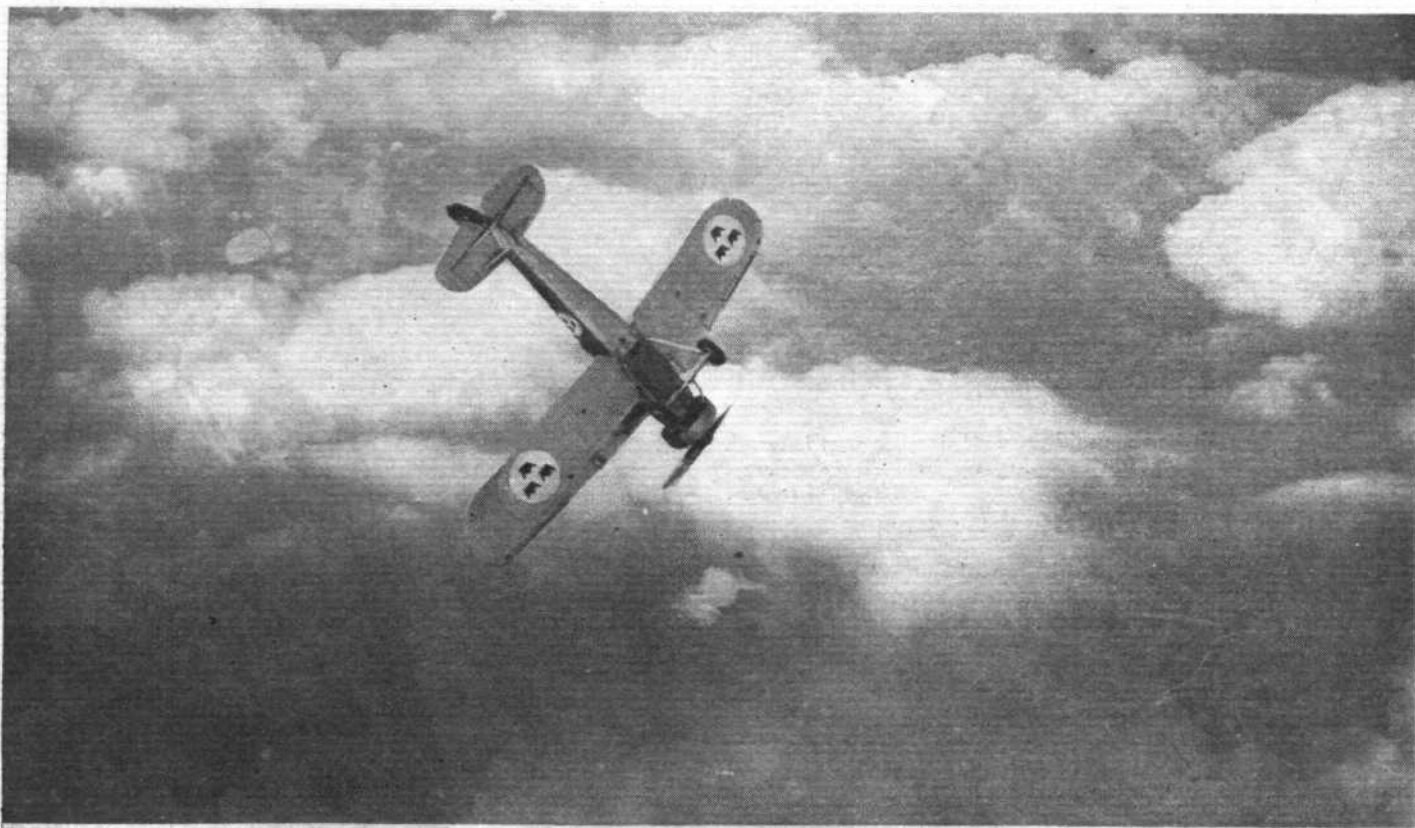
Besides the large collection of aircraft models and engines, the Museum is well supplied with aircraft accessories. There is an interesting model which demonstrates the principle of the Townend Ring. This is shown in our illustration. When the electric fan is set in motion, the model Townend Ring, which is suspended from above, moves forward from the engine, which it normally cowl. This shows that the forward force on the ring is considerably greater than the increased resistance caused by the presence of the ring. Modern practice in the construction of metal aircraft is illustrated by portions of wings and fuselages presented by the Bristol Aeroplane Co. and other firms. Siebe Gorman oxygen apparatus is shown mounted in a portion of an aeroplane fuselage. Parachutes include an Irvin, a "Guardian Angel," and a Spencer. Apart from a few Zeppelin relics and portions of airships and aeroplanes, the remaining exhibits are instruments and pieces of apparatus having some connection with the production of aircraft.

We feel that we must mention the very excellent handbooks produced by Mr. M. J. B. Davy, A. F. R.Ae.S., who, for thirteen years, has been in charge of the Aeronautical Section of the Museum. Lectures on aeronautical subjects, to which the public are admitted free, are given on certain days. The Science Library, which is housed in the Museum buildings, and to which admission is also free, contains a very comprehensive selection of aeronautical books of all descriptions.

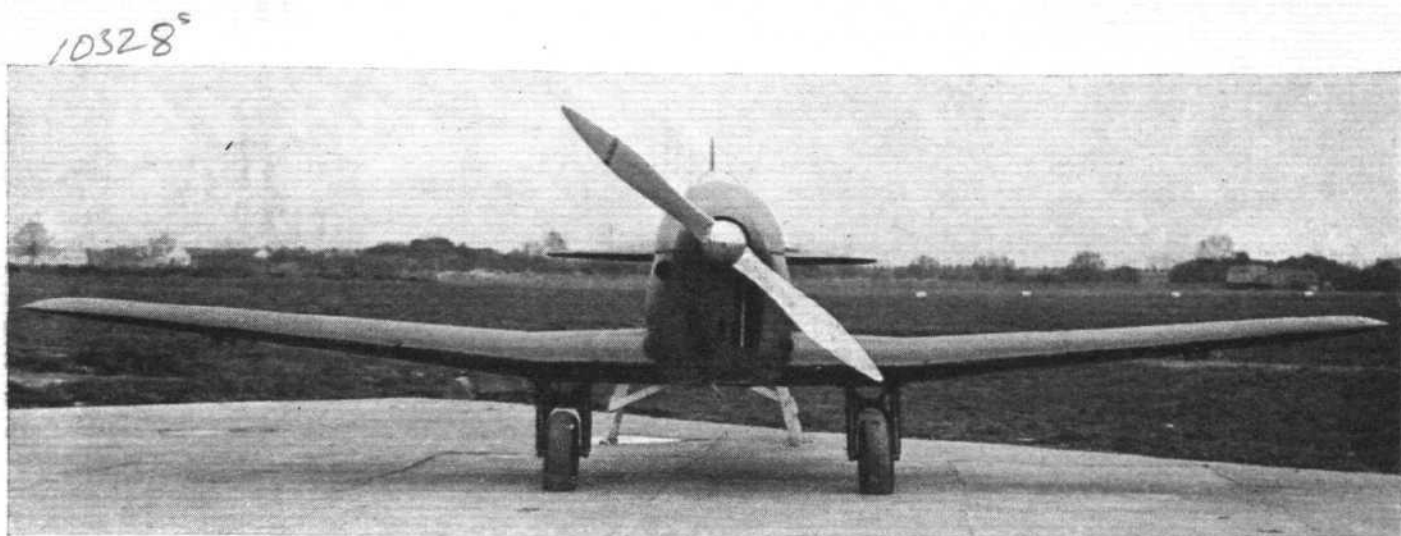


ENSHRINED: (Left) The Vickers Supermarine S.6B and the Wright biplane are two of the great attractions at the Science Museum. (Right) Some wartime aircraft in miniature. No prize is offered to anyone guessing the name of the machine in the top left-hand corner. (FLIGHT Photos.)

SWEDEN BUYS "HARTS"



A REHEARSAL : Messrs. Bulman and Sayer, Hawker's test pilots, putting two of the "Harts" (Bristol "Pegasus") ordered by Sweden through their paces. In the lower picture the two machines were climbing very steeply, the horizon being far above the upper edge of the photograph. (FLIGHT Photos.)



THE COMPER "STREAK"

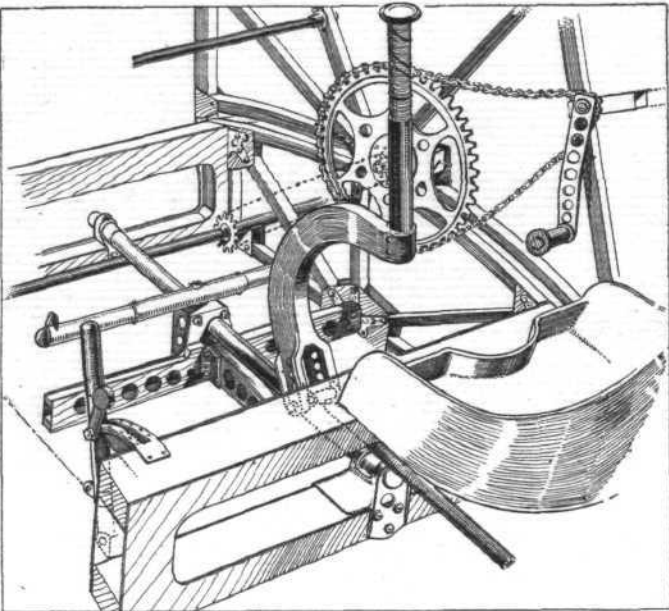
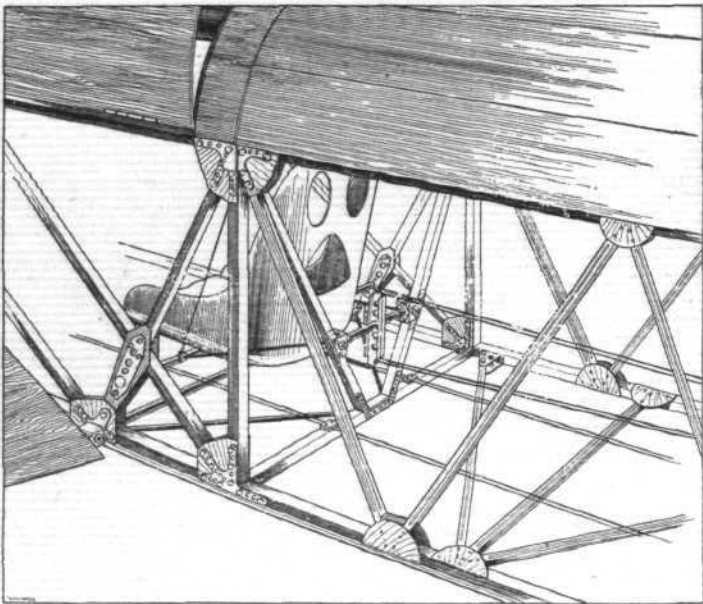
FLt. Lt. COMPER and those associated with him are to be congratulated on their enterprise in challenging the French constructors for the Coupe de la Meurthe Cup. With the withdrawal, announced last week, of the Italian entries for, it is believed, the reason that the machines and engines could not be sufficiently developed and tested in time for the contest, Great Britain will be the only non-French challenger, and the Comper "Streak" will be the only British entrant. What makes the British challenge so courageous is the fact that the "Streak" is fitted with the de Havilland "Gipsy Major" naturally-aspirated engine, which is of but 6.125 litres capacity, while the French machines will be able to call upon all the power that can be got from supercharged engines of the full 8 litres capacity permitted by the Coupe Deutsch regulations. This means that Comper will have to face competitors with more than twice his power at their disposal. Comper's performance estimates indicate, however, that his machine should not be nearly so inferior to the French as the difference in power might lead one to imagine. The effect of engine power is cumulative, and the larger and more powerful engines require correspondingly more fuel in a given time, which means that the machine itself must be larger and of greater wing area if the landing speed is to be kept down to reasonable limits. Everyone in British aviation will wish Lt. Lt. Comper all possible good fortune in his plucky attempt to wrest the Coupe Deutsch from the French defenders.

Last year Lt. Lt. N. Comper, Chief Engineer and Technical Director of the Comper Aircraft Co., Ltd., put a "hotted up" "Gipsy Major" engine into one of his little high-wing monoplanes, and in the face of very great handicap and serious competition raced it for the Coupe Deutsch de la Meurthe in France. The story of his gallant fight was recorded in FLIGHT for June 8, 1933. In our issue of FLIGHT for May 11, 1933, we were able to publish a general arrangement drawing showing a development of a new machine called the "Streak," designed chiefly for races of this nature—which, incidentally, Lt. Lt. Comper's experience in France had shown him to be desirable. The original "Streak" was, we believe, designed with the idea of competing in the International Air Races which a committee attempted to organise at Portsmouth last year. Unfortunately, these races did not mature, and the "Streak" never, therefore, came out. This year Lt. Lt. Comper has again decided to compete in the French event, and on Thursday, April 12, the machine was flown successfully.

During the first flight of the "Streak," made by Lt. Lt. Comper himself, the new machine proved itself perfectly balanced, and it was found that control and stability were good. One possible exception was formed by the ailerons, which were found to be surprisingly sensitive. So much so, in fact, that flutter developed. In this connection it should be pointed out that the mass balances designed for the ailerons had not yet been fitted, and it may be that when this has been done the trouble



RACY LOOKING: The two views of the new Comper "Streak" on this page bring out the racy lines of this machine. The head-on view, more particularly when the landing gear is retracted, shows how clean it is possible to get a machine of this nature. (FLIGHT Photos.)



FUSELAGE DETAILS : In these sketches our artist brings out very clearly the constructional details of the central portion of the fuselage. On the right, the lever which raises and lowers the undercarriage. (FLIGHT Sketches.)

will disappear. The flutter occurred at high speed only, and modern theory indicates that in nearly all cases a tendency to flutter can be cured by mass balances.

Since January, 1930, when we were able to publish the first full description of the Comper "Swift," which at that time was fitted with the A.B.C. "Scorpion" engine, a great deal of development has taken place. As our photographs show, subsequent development was the production of a "Swift" with a Pobjoy engine, then a "Swift" with a "Gipsy Major" engine, and more recently a low-wing high-performance monoplane called

the "Mouse" (see FLIGHT for September 28, 1933).

Flt. Lt. Comper, with his Technical Assistant, Mr. A. A. Fletcher, have by their experience with this latter machine, been able to produce the "Streak," and this machine is in effect a modified "Swift" fuselage put on to a scaled-down "Mouse" wing. The result is a very up-to-date high-performance machine, which may equally well be used for racing or for the fast transport of things like Press photographs. Points which will immediately be noticed, besides the general clean lines, are the retractable undercarriage and the modification of the top decking of the fuselage behind the "Gipsy" engine, to new curved lines. As in the "Mouse," the wheels of the undercarriage are stowed slightly below the bottom of the wing when the undercarriage is retracted, forming an excellent safety device in the case of forced landings on soft or bad ground. The "Mouse" has already been landed with the wheels retracted without any damage whatsoever other than bending the airscrew tips, and even that may be avoided if the airscrew is so mounted that it stops in the horizontal position. Landing the machine like this, while it is true it may result in slight damage to the bottom of the fuselage, does remove any possibility of the machine turning over and damaging the occupants, a matter of no small importance in the case of the "Streak," which has a wing loading as high as 18.75 lb./sq. ft. (91.54 kg./m²).

Structurally the fuselage differs in its main essentials very little indeed from the "Swift." It consists of spruce longerons, rigidly braced by spruce struts in W form with three-ply gussets of ample size, and the whole is fabric covered. Modifications have, of course, been made to the bottom longerons in the centre portion of the fuselage, where it is placed over the wing.

The fairing over the rear part of the fuselage is of doped fabric over a light framework of spruce stringers. Between the fireproof bulkhead and the pilot's windscreen a sheet aluminium cover over the main fuel tank forms the top front decking and continues an excellent line back from the engine fairing.

The wing is made up as a complete unit with box-section plywood and spruce spars; an ingenious joint allows the webs to be continuous, although the centre portion of the spar is horizontal and the outer

COMPER "STREAK"

Special "Gipsy Major" Engine, 146 h.p. at 2,400 r.p.m.

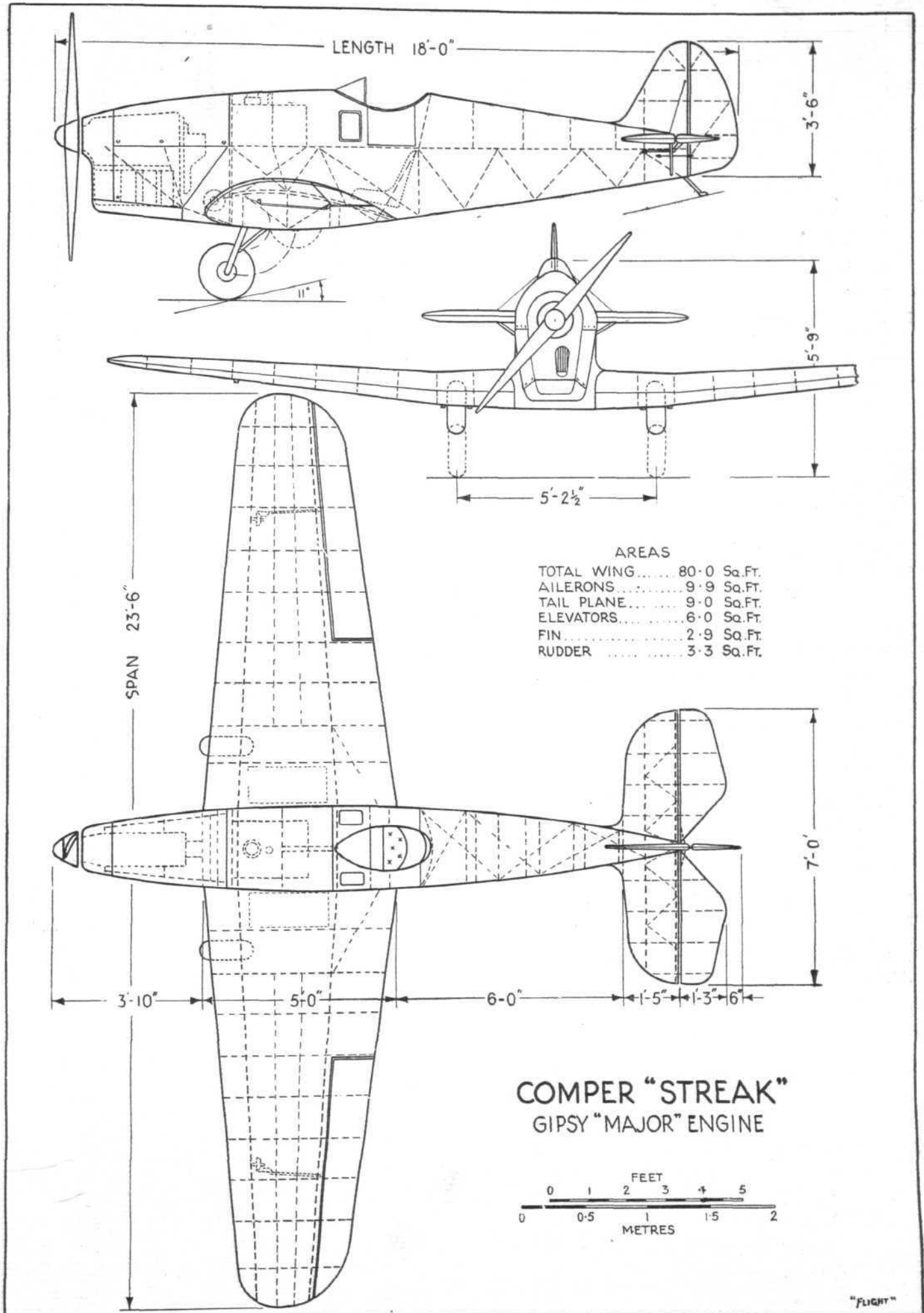
DIMENSIONS						ft.	in.	m
Span of wing	..	..	..	..	..	23	6	(7,16)
Height overall	..	..	..	..	..	5	9	(1,75)
Length overall	..	..	..	..	..	18	0	(5,49)
Wheel track	..	..	..	..	..	5	2	(1,57)
Mean chord	..	..	..	..	..	3	8.75	(1,13)
Aspect ratio	..	..	..	..	..	5.8 to 1		
Incidence	..	..	..	..	..	1.5 deg.		
Dihedral	..	..	..	..	..	5 deg.		
Aerofoil section	..	..	..	..	..	R.A.F. 34.		
AREAS						sq. ft.	m ²	
Main plane with ailerons	..	..	..	..	..	80.0	(7,43)	
Ailerons, total	..	..	..	..	..	9.9	(0,92)	
Tail plane and elevators	..	..	..	..	..	15.0	(1,39)	
Fin	..	..	..	..	..	2.9	(0,27)	
Rudder	..	..	..	..	..	3.3	(0,31)	
WEIGHTS						lb.	kg	
Tare weight	..	..	..	..	..	880	(399,16)	
Pilot	..	..	..	..	..	170	(77,11)	
Fuel	..	..	..	46 gall.	(209,11 l)	354	(160,57)	
Oil	..	..	..	2.5 gall.	(11,36 l)	25	(11,34)	
Gross weight	..	..	..	..	..	1,429	(648,18)	
Maximum permissible weight	..	..	..	..	..	1,500	(680,39)	
LOADINGS								
Wing loading	..	..	..	18.75 lb./sq. ft.	(91,54 kg/m ²)			
Power loading	..	..	..	9.73 lb./h.p.	(5,76 kg/h.p.)			

FUEL CONSUMPTION

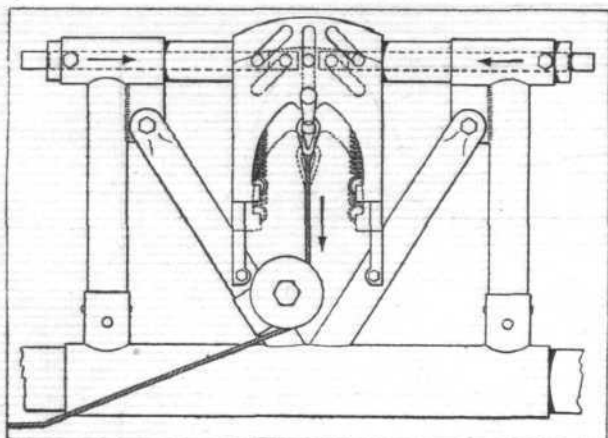
11.5 gall./hr. (52.27 l/h) at 2,400 r.p.m.

PERFORMANCE

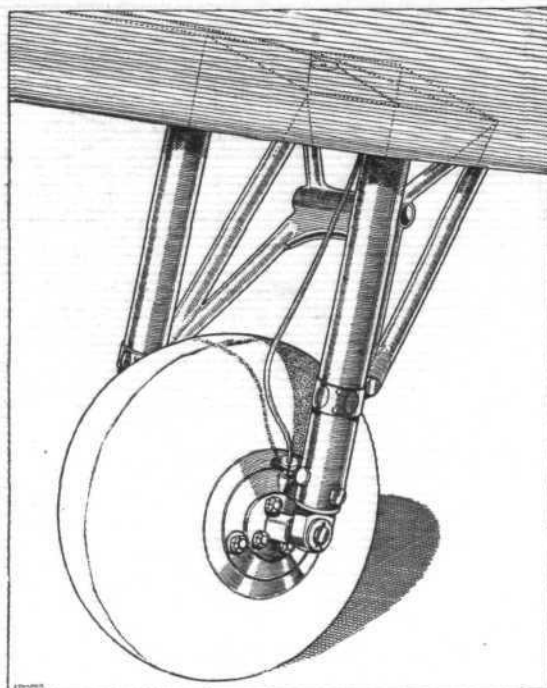
No performance figures yet available.



GENERAL ARRANGEMENT DRAWING OF THE COMPER "STREAK"



RETRACTABLE : On the right is a perspective sketch showing the general details of one side of the retractable landing gear, and above is the mechanism whereby the locking pins are withdrawn preparatory to raising the landing gear. (FLIGHT Sketches.)

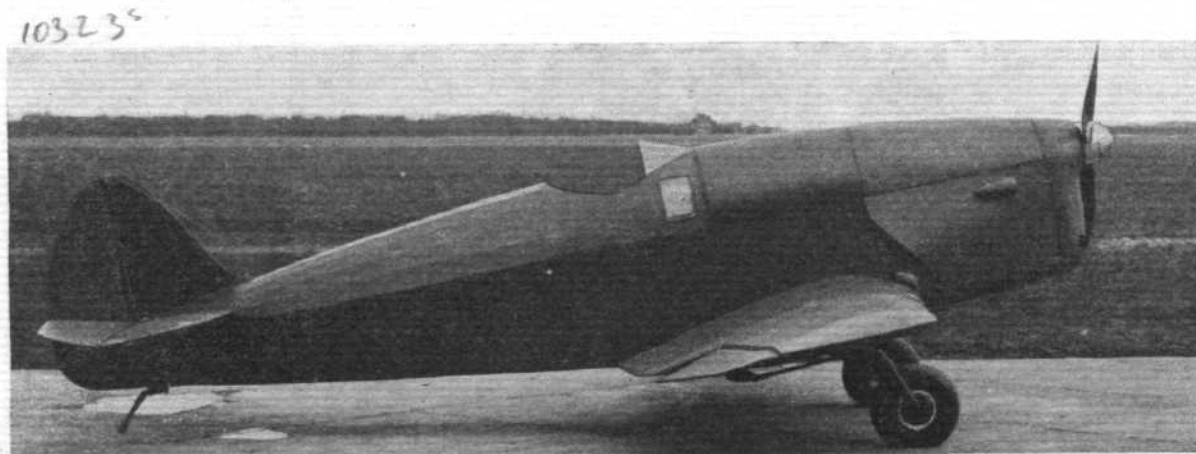


ROOT DETAILS : The finished "Streak" will in all probability be heavily filleted at the wing roots. Near the leading edge can be seen the exhaust for the cooling air which is led through the oil tank. The windows in the sides of the pilot's cockpit should also be noted. (FLIGHT Photo.)

portions of the wing beyond the undercarriage housings are turned up to give a 5 deg. dihedral angle. The ribs have solid three-ply webs with double spruce booms, and the three-ply covering over the whole wing removes any necessity for separate drag bracing. The ribs on either side of the undercarriage recesses are of laminated spruce, and steel tubes carry the drag stresses in the region of these recesses. The aileron spars are channel section spindled from spruce, with a three-ply web across the jaws of the channel. The ribs are constructed much in the same way as those of the wing, and a three-ply covering is also used. Our sketch shows the small fibre gear wheels in the wing which transfer the motion of the aileron control cables from the control column via external rods and levers to the ailerons themselves.

The tail plane has spindled spruce spars, spruce and plywood ribs and is fabric covered, the elevator also being of the same construction. The rudder and fin, however, have steel tube posts with flanged steel plate ribs, spot welded to sleeves which are pinned to the posts, the leading edge and trailing edge also being steel tubes. The controls are by cross-shafts, rocking levers and cables, following normal practice. The tail skid is a straightforward one composed of leaf springs. In the pilot's cockpit a large dashboard carries the usual range of Smith's instruments, including one of their latest Turn and Bank Indicators, and a Reid & Sigrist pitch level.

Our artist's impression of the centre-section, which carries the pilot's controls, shows how well placed are items like the operating handle for the undercarriage on the starboard side and the brake lever on the port side. In order to assist the pilot as much as possible without increasing the drag of the machine, transparent windows have been let in either side of the fairing below the wind-



CLEAN LINES : The "Gipsy Major" engine of the Comper "Streak" has been very cleanly faired in, but the cowling at the same time provides adequate cooling. (FLIGHT Photo.)



GENESIS: These views show the genesis of the "Streak." At the top left is the first "Swift" which had an A.B.C. "Scorpion" engine. On the right is the standard "Swift" with the Pobjoy engine. The next stage was the "Swift" at the bottom left-hand corner which was built for the Prince of Wales for the King's Cup Race, and had a "Gipsy Major" engine. On the right is the first low-wing Comper machine, the "Mouse," with the retractable landing gear, and the "Streak," with which this article deals, is the result of combining the "Swift" fuselage with a scaled-down "Mouse" wing and landing gear. (FLIGHT Photos.)

screen, and by them his view is quite considerably enhanced.

The engine mounting, carrying the special "Gipsy Major" engine, is a straightforward one of square-section welded steel tubes. The fuel system consists of a central tank mounted in the fuselage in front of the pilot, carrying 29 gall. (132 litres), and two wing tanks in the centre portion of the wing either side of the fuselage, having a capacity of 8½ gall. (38.6 litres) capacity each. The engine is supplied with fuel by dual pumps of de Havilland manufacture. The cowling round the engine is of sheet aluminium. It is particularly neat and gives the fore part of the machine very clean lines, at the same time providing adequate cooling. The side panels of the cowling are on vertical hinges at the front end and are secured, as are the top and bottom detachable panels, by the new Thompson-Boothby cowling clip. The oil tank, in keeping with Comper practice, is cooled by a direct air inlet on the port side, carrying cold air from the outside of the

machine through a tube running through the middle of the tank, and exhausted by a vent placed where the starboard wing root joins the fuselage. The engine drives a Fairey metal propeller.

The undercarriage differs but slightly from that fitted in the Comper "Mouse." Only one compression leg is fitted either side of each wheel, and these legs are of the type now so well known, which is designed and manufactured by Mr. G. H. Dowty, of Aircraft Components Co., Cheltenham. Our artist's sketch explains clearly the neat manner in which the locking pins are withdrawn when it is desired to raise the landing gear. Each unit comprising the structure carrying the compression legs and ultimately the wheel itself is, of course, entirely separate from the other except that a cross shaft enables the sprocket and chain drive in the cockpit to raise and lower both wheels simultaneously. Dunlop wheels and tyres are fitted, the former being the A.H.6 16-in. type and the latter 6-in. by 6½-in. medium pressure, and the brakes are Bendix.

COURTALD LECTURES ON GREENLAND

LAST Friday, April 13, Mr. A. Courtald delivered a lecture on his experiences with the expedition which was organised by the late Mr. H. G.

Watkins and had for its purpose the survey and mapping of the Arctic air route. The lecture was arranged by the Legion of Frontiersmen, and at the commencement Mr. Courtald was honoured by being the first recipient who was not a Frontiersman to receive their badge. He illustrated his lecture with a large number of very interesting slides illustrating many of the difficulties which they had to overcome, the methods by which they obtained seals, salmon, sharks and other forms of food, both for themselves and their dogs. Although he was extremely modest, Mr. Courtald left no doubt of the terrific hardships the expedition had to withstand. He described in graphic detail how members of the party relieved the observation post on the northern ice cap, how one of their number had to be left there alone for many months, as they had not been able to get sufficient food

to the post to allow of more than one person, and how that member (who was himself) was eventually relieved when the spring came again. He did not, however, say that the member of the expedition who undertook to operate that post alone under such terrific conditions was himself. Aircraft were used during the expedition, and we were shown many photographs of the two "Moths" both on floats and on skis, from which a large number of photographs were obtained. Mr. Courtald was loud in his praises of the Eskimos, who assisted the expedition to the best of their ability with no hope of gain or reward. He sketched briefly the trips which were made by members of the party, including those round the coast of Greenland, in small whale boats and kayaks and also by dog sled teams across the ice caps to Julianehaab. His story was both graphic and informative, and we hope that the full history will eventually be published, so that the loss of such a gallant leader as Mr. H. G. Watkins may not have been in vain.

London Chamber of Commerce annual dinner

H.R.H. THE PRINCE OF WALES, K.G., has again honoured the Chamber by consenting to be the principal guest at its Annual Dinner, which will take place on Tuesday, May 29, at 7 for 7.30 p.m., at the Connaught Rooms, Great Queen Street, Kingsway, W.C.2. Viscount Leverhulme, D.L., J.P., President of the Chamber, will preside, and His Excellency the Hon. Robert W. Bingham, the American Ambassador, and the Right Hon. Walter Runciman, M.P., President of the Board of Trade, have also intimated their intention to be present and speak.

The price of tickets is £1 11s. 6d. each (including wine and cigars), and members intending to be present are asked to send in their applications, with remittance, as early as possible.

A Viscount Knebworth Memorial Camp

EFFORTS are being made to establish a permanent holiday camp for boys at Wroxham, Norfolk, as a memorial to Viscount Knebworth, who was killed in an accident to a Service aircraft last year. A dinner is being held in connection with this scheme at the Carpenters' Hall, London, on April 24. It is expected that Mr. Winston Churchill and Marshal of the Royal Air Force Sir John Salmond will be present.

Air Transport & Commerce

RAILWAY AIR SERVICES

SOME further details are to hand of the first of the Railway Air Services—that arranged by the Southern Railway in co-operation with Spartan Air Lines, Ltd., and operated by the latter between Croydon and the Isle of Wight.

There will be three services in each direction daily, commencing May 1, two in the morning and one in the evening. These services will start from Imperial Airways, Victoria Station, passengers being conveyed by motor-car to Croydon Airport and thence by air to the Isle of Wight, landing at Cowes. An additional service in each direction will be run during the height of the season in the early afternoon. The over-all time of journey will be 1½ hours, the actual air portion occupying 50 minutes. The service should particularly appeal to London business men. The single fare for the whole journey will be 30s. (return fare 50s.), and holders of return tickets can, if they so desire, return first class by the Southern Railway steamers via Ryde and Portsmouth and restaurant-car expresses to London, without extra charge. The new service will, therefore, provide under one charge the possibility of travelling by air, rail, sea and road.

In addition to the Imperial Airways offices, tourist agencies, etc., tickets can be obtained and seats reserved at the principal stations on the Southern system, and also at the Spartan Air Lines offices, Somerton Aerodrome, Cowes, Isle of Wight.

The machines to be used on the service are the Spartan

"Cruisers," three-engined air liners having a cruising speed of 118 miles per hour, with a top speed of 140 miles per hour. The cabins are well ventilated, free from excessive noise and vibration and providing accommodation for six or seven passengers and their luggage. On the latest type of air liner, toilet accommodation is provided.

The route taken will be over the most beautiful parts of Surrey and Hampshire, with views of Dorking, Haslemere, Midhurst and Hayling Island, with Portsmouth and Southsea and Southampton Water in the distance, and the whole of the South Coast panorama stretching eastward towards Brighton. These can be easily seen from any seat in the air liner.

Railway Air Services, Ltd., have placed an order with de Havilland's for a number of their aircraft to be used on a daily service between Plymouth and Liverpool, with intermediate stops at Cardiff, Bristol and Birmingham—an extension of the service operated last year by the Great Western Railway. These machines will be the new type "Dragon," with two "Gipsy VI" engines, carrying eight passengers at a cruising speed of 145 m.p.h. Full details of this machine have not yet been released, but it is understood to be a combination of the essential features of the "D.H.86" four-engined air liner and the well-tried "Dragon." These machines are due for delivery in July and August, and until that time the service will be maintained with standard "Dragons" ("Gipsy Major" engines).

THE SINGAPORE-DARWIN MAIL CONTRACT

AN announcement is expected shortly, says the Canberra correspondent of *The Times*, that the Federal Council now sitting has accepted the sub-committee's recommendation of the tender of the Australian company formed jointly by Imperial Airways and the Queensland and Northern Territory Aerial Services (Qantas) for the Singapore-Darwin air mail service. The correspondent adds that tenders for the subsidiary Australian services are likely to be delayed. It is expected that the air mail between Singapore and Darwin will commence operations this summer and the passenger service early next year.

SOUTH AFRICAN SERVICES

INTRODUCING the Railway Budget in the Union House of Assembly at Cape Town, on April 11, Mr. Pirow, the Minister for Railways, stated that the policy of the Government was to bring all regular internal air services under Government control. Negotiations were proceeding, he said, whereby South West Airways would be taken over, and a number of new services worked out. The restoration of the daily service between Johannesburg and Durban was contemplated, and next year two new services, from Cape Town to Windhoek and from Johannesburg to Lourenço Marques, might be established. It was hoped that Imperial Airways would decide to establish the proposed service from East Africa to Durban, East London and Capetown. The Government was prepared to consider the withdrawal of the competitive service over the coastal route in the event of the establishment of this service.

DUTCH SERVICE TO AUSTRALIA?

Java Bode, a Dutch East Indian newspaper, reports that as soon as the Imperial Airways line to Australia is open, a Dutch service to Australia will also be started.

A NORTH DEVON PLEASURE SERVICE?

AIR MINISTRY permission is being sought for the establishment of an aerial pleasure service between Heanton, North Devon, and Lundy Island.

RECORD FLIGHT ON BRAZIL-GERMANY SERVICE

A RECORD was created last week by Deutsche Luft Hansa on the Transatlantic air mail service, when the 5,600 miles from South America to Germany were covered in 2 days 23 hours 45 minutes. The previous record was 3½ days. The flight was made in four stages, using four aircraft. On Friday, April 6, a Dornier "Wal" flying

boat left Natal, Brazil, at 9.14 a.m., and reached the "parent ship" *Westfalen*, moored 950 miles away, at 6.49 p.m. The next day, at 12.58 a.m., a second machine (probably a Dornier "Wal") was catapulted from the ship, and arrived at Bathurst, British Gambia, at 9.39 a.m. An hour later the third stage was commenced, and the mails arrived at Seville on Sunday, at 1.20. The machine carrying the mails on the final stage reached Stuttgart at 8.59 a.m. on Monday.

AIR LINE FOR ABYSSINIA

WALTER MITTELHOLZER, the Swiss airman, who recently flew a triple-engined Fokker to Addis Ababa for the use of the Emperor of Abyssinia, will return to Abyssinia this autumn to establish a Swiss-controlled air line in that country.

D.H. 86'S FOR JERSEY AIR LINES

WE learn from Mr. Thurgood that he is putting two D.H. 86 four-engined machines on the Jersey Air Services next September. These machines will carry 14 passengers each, and when they are in operation the standard "Dragons" will be withdrawn from regular service. His fleet, of which one will continue to operate over the summer, consists of eight machines.

DUTCH AIRCRAFT FOR IRISH COMPANY?

It is understood that representatives of the Irish Aviation Development Corporation, for which a provisional board has now been nominated, will visit Amsterdam during the next few days to negotiate for the purchase of aircraft for the operation of the Corporation's services between Dublin, Cork, Limerick and Galway, which are to be opened during the summer.

GERMANY AND ARGENTINE AIR MAILS

UP to the present Germany has had no postal contracts with the Argentine, so that Argentine air mails could not be carried by German aircraft returning from South America. On April 4 the President of the Argentine Republic granted to the Condor Syndicate the right to transport Argentine mails. The Condor Syndicate, it will be remembered, is affiliated to the Luft Hansa interests, and takes over, on the South American seaboard, mails carried by Luft Hansa aircraft. Negotiations have recently taken place between French and German companies with a view to forming a pool agreement, which, during four years, would give 62½ per cent. of the profits made on the South Atlantic route to French companies and 37½ per cent. to German interests. This idea has met with strong opposition in French aeronautical circles.

From the Clubs

HATFIELD

New members who joined the **London Aeroplane Club** during the past week were Messrs. Barker, Parker, Colverd, Lichtig and Dr. Brown. Mr. Sumanadasa carried out his "A" licence tests. Flying times for the week were: **The London Aeroplane Club**, 67 hr. 35 min.; **The R.A.F. Flying Club**, 10 hr. 35 min. A considerable amount of interest was aroused when the new Avro 642 monoplane G-ACFV, piloted by Mr. Malet, landed here on April 10 in very thick weather. The weather was exceptionally good for flying last Friday, and all different types of machines were to be seen on the aerodrome during the day, including Sir Alfred Beit's Miles "Hawk," which landed just before dusk. A new private owner this week is Mr. Hicks, who owns G-ACNR, a "Gipsy Major Moth." The weather remaining so uncertain, few members have used the club to any extent during the week. Sunday was, however, an exception, and the brilliant sunshine enabled tea to be served on the terrace, and quite a number of members and their friends remained on during the evening. On the same day two brave members went in for a swim.

HANWORTH

Flying time on club aircraft for the week ending April 13 amounted to 33 hours 25 minutes. Tests for "A" licence were carried out by Capt. Parry during the week, and Mr. Kirwan has now passed all his tests and is a fully qualified "B" licence pilot. Mr. Jim Mollison visited the club on April 10 and Lord Sempill returned from the Continent in his "Puss Moth" after visiting Friedrichshafen.

NORFOLK AND NORWICH AERO CLUB

This club had another good spell of flying last week which included a cross-country flight to Cambridge by the Instructor and Mrs. F. Crossley. Congratulations to Mrs. F. Crossley, of Sandy, Bedfordshire, on passing her cross-country and forced-landing tests, and consequently obtaining her passenger-carrying certificate. Mrs. Crossley's first passenger was her sister, Miss D. Harrison. M. Roger Le Coutre continued his instruction during the week and the following received advanced or refresher courses from Mr. J. Collier:—Messrs. W. O'Brien, A. A. Rice, H. Birchall and F. Dawson Paul. Soloists were Messrs. H. Birchall, A. J. S. Morris, Mrs. F. Crossley, Miss W. F. Hudd, Messrs. F. Forestier-Walker, A. Kirkby, A. R. Cox, S. Hansel, H. C. Stringer and E. V. Beaumont. Visitors included Mr. R. F. C. Edelsten from Brooklands in a "Moth," Mr. G. B. Legge in a "Leopard Moth" from Croydon, F/O. H. M. Gahan from Hendon ("Moth") and Air Com. R. H. Verney, O.B.E., from Cranwell, also in a "Moth."

The club has been very busy for the last three or four months in every department and the recent good increase in flying promises to be maintained. In order that members may benefit by the past prosperous few months, the

management have decided to reduce the flying rates. Also, it is hoped that these reductions will greatly increase the flying hours with a consequent reduction in overhead charges per unit. From now the flying rates will be 25s. per hour for soloists—a reduction of 5s. per hour; instruction will be 35s. per hour—a reduction of 2s. 6d. per hour. Another important change is that qualified pilots may now obtain refresher or advanced instruction at the solo rate of 25s. per hour instead of 37s. 6d. This large reduction of 12s. 6d. per hour is made so that pilots may keep in good practice without feeling that this extra care and trouble is an additional cost.

At the end of last summer Mr. James Hardy offered to pay for a pupil to be trained by the club. This generosity of Mr. Hardy was the commencement of a series of flying scholarships. The winner of Mr. Hardy's scholarship, which was open to all residents in Norfolk and Norwich, was Mr. F. W. Rushmer. Mr. Rushmer has now completed his tests for his licence and has only his oral examination to take. Encouraged by the success of this scholarship, the club approached the business houses of Norwich with a view to their giving scholarships for their employees. Mr. Henry N. Holmes, the then Lord Mayor, approved of the scheme and supported it by giving a scholarship for the staff of Edwards & Holmes, Ltd. Boulton & Paul, Ltd. further advanced the scheme by giving two for their employees, one of which was given by Mr. J. Carter, the general manager. Mr. Alan Colman then gave one for J. J. Colman, Ltd. Winter short days prevented the club from attempting to cope with more than one of these scholarships, and it was decided to deal with the employees of Messrs. Edwards & Holmes first. Nearly 70 trial lessons were given in connection with this. From these lessons Messrs. B. E. Thwaites, G. Cozens and A. Augood were adjudged finalists. The final trial flights will be made shortly and the winner will be awarded with free flying instruction until qualified for his "A" licence. The club has started working on the scholarship for J. J. Colman, Ltd., and have tested about ten applicants, and will shortly be commencing on the two scholarships for Messrs. Boulton & Paul. It is hoped that later other firms in Norwich and the County will follow the splendid example of the above-mentioned firms.

BROOKLANDS

The weather during last week has been stormy, curtailing *ab initio* training, but advanced instruction has been quite busy, total hours for the week being 57 hours: 32 hours dual, and 25 hours solo. Mr. R. Harrison has completed his "B" licence tests, and finished up his training by doing a parachute descent. Mr. Scott has successfully passed his "A" licence tests. New members joining during the week were Messrs. J. Brembridge, E. Ireland, H. Travers-Armstrong, J. Bury, A. R. Blair, B. Mountford, and E. Guillon. Cross-country flights have been carried out to Canterbury, Lympne, Eastbourne,

A STAGE AND AERONAUTICAL

LOSS: On April 11 that great actor, Sir Gerald du Maurier, passed away at the age of 61, in a nursing home, following an operation for internal trouble earlier this month. As an actor, Sir Gerald was remarkably versatile, whether he was the Capt. Hook of *Peter Pan*—loved so much by both young and old—the wonderful Admirable Crichton or the daring Bulldog Drummond. He was also a successful manager, and worked hard for the theatrical charities, etc. Here we see him at Hatfield, in connection with the Stage and Screen Aero Club, in which he was interested. With him are Miss Dorothy Hyson and Mrs. Douglas Cory-Wright.

(FLIGHT Photo.)



Worthy Down, and Birmingham. Renewed interest has been shown in Brooklands Sales organisation, and as sole concessionaires for the South of England for de Havilland products there have been quite a few successful transactions for new machines; the stock of secondhand aircraft is also turning over quickly. G.Q. Parachutes have been active here, having done six descents during the week, one drop being done by Miss Turle. The Aeronautical College has re-opened after the Easter holidays, and 20 new students have joined, many of whom will be learning to fly after College hours.

THE HAMPSHIRE AEROPLANE CLUB

During the week ending April 7, 71.15 hours were flown by Club aircraft. On Easter Sunday morning, three Club machines took part in a Dawn Patrol at Brooklands. The Club aircraft were flown by Mr. Frank Wallis with Mrs. Wallis as passenger, Flt. Lt. W. G. Abrams, R.A.F., with Miss Abrams as passenger, and Mr. W. H. Dudley with two visitors from the Channel Islands. Mr. P. S. Papps, who is now also a member of the Portsmouth Aero Club, borrowed a Portsmouth machine and joined in with a passenger. In spite of the cold wind which blew throughout the Easter holidays, joyriding in the Club three-seater Spartan was extraordinarily good. During the week five new pilot members joined the Club, and the following members made their first solo flights.—Morgan Crofton, R. G. H. Parnell, G. B. Goodby.

IRISH AERO CLUB

Good flying weather has resulted in considerably increased activity at Baldonnel Aerodrome during the past few weeks, and two competitions were held. These were both won by Dr. G. E. Pepper, who carried off the Captain Saul Cup in the landing competition and the Major Dunckley Memorial Cup in the map-reading contest. He did not lose a single mark in the second event. Efforts are being made to start a branch of the club in Cork, and during the summer machines will visit Sligo and Waterford for instructional purposes.

SOUTHEND FLYING CLUB

The Southend Flying Club had a good week at Easter with a total of 18 hours' flying, despite the fact that only one machine has been available. The "Gipsy Moth" A.B.T.S. was returned from Rollasons after two days for top overhaul. The "Fox Moth" and "Cirrus Moth" were flown to Croydon, the former for certificate of airworthiness and the latter for complete engine overhaul. The club fleet of aircraft will then be complete and ready for what promises to be a very good season for aviation. Six new members have joined the club and two new pupils have started instruction under Mr. Glover. Mr. Smith, who already holds his "A" licence, is training for his "B" commercial certificate, and Mr. Stevens, the designer of "Skybirds" model aeroplanes, has made excellent progress, for, although having had only one hour's instruction so far, he is already learning landings and take offs.

The recent marked increase in flying hours continues to be maintained at the Rochford Aerodrome, instruction, solo flying and passenger flights going on continuously over the past week-end, and another first solo—Mr. Clark, of Chelmsford, this time—who made a very satisfactory flight. An interesting visiting machine was a twin-engined Monospar from Croydon. Mr. Lipton in his "Moth" Jason 4 (which previously belonged to Mrs. Mollison) arrived on Sunday in his usual lively manner. All interested in aviation in Southend will be pleased to hear the report that the Southend Corporation are going ahead with the arrangements for the municipal aerodrome, and it is hoped that by the autumn preparations will be far enough advanced for the Club to be operating from Southend's own airport, although, of course, it must be some time before the buildings and complete layout can be well in hand. It will certainly be fitting if a definite commencement is made during the year of office of the present Mayor—Mr. Frith—who has taken such an interest in this progressive step. The municipal aerodrome will be more accessible, being within a short distance of the arterial road on the road to Rochford, whereas the present Club aerodrome is on the north side of Rochford and farther out from town, although it may be reached by an excellent bus service.

READING AERO CLUB

Nine privately-owned machines left Reading Aerodrome at midday on Sunday last on a visit to the Bristol and Wessex Aeroplane Club. These were Mrs. Battye and Mr. Raynor in "Gipsy Moth" G-AAYL, Mr. Higgs and

Herr Lehmann in "Hermes Avian" ACBV, Mr. Harrison and a friend in Miles "Hawk" ("Cirrus III") ACMN, Mr. Bishop and Mr. Sims in "Cirrus II Moth" EBZL, Mr. Ogilvie and Mr. Atkinson in "Gipsy I Moth" ABBI, Mr. Sanders in Miles "Martlet" ("Genet II") ABIF, Mr. Powis and Mr. Grundy in Miles "Hawk" ACNW, Mr. Bradbrooke and friend in Miles "Hawk" ACHL, and Mr. Bentley and two friends—one canine—in the Shell "Leopard Moth" ACLY. The weather, after reports of cloud at 300 feet and down to the ground in places, turned brilliantly fine, with a visibility of 20 miles or more, and "an enjoyable time was had by all." It is hoped that this will be the first of several "mass" cross-country flights to other aerodromes this spring and summer. The Club President, Lord Apsley, was to have led the flight, but he was prevented from coming to Reading at the last moment, but very sportingly came out to meet the flight, however, and picked up the company well on the London side of Calne. The Reading Aero Club challenges all other Clubs to a Dawn Patrol between 8 a.m. and 8.30 a.m. on Sunday, May 6, next. Rules are being sent out, and in the event of any Club interested not receiving copies they should write to the Hon. Secretary for copies.

CINQUE PORTS FLYING CLUB

The total flying hours for the past week were 30 hours. Mr. Gogte completed his 5 hours solo night flying, which he contracted to do. In spite of indifferent weather conditions Mr. D. G. Parker and Mr. G. A. Murray-Smith both obtained "A" licences. The latter went solo after only 4½ hours dual. Mr. Ken Waller, the assistant Club instructor, and Mr. Bernard Rubin reached Australia in the excellent time of 15 days. They were held up for two days on the way out by bad weather. They hope to start back home on April 22. The Club has now obtained a complete oxy-acetylene welding plant, and will in future be in a position to do any welding repairs. Mr. Patterson, the chief ground engineer, has obtained his "D" ground engineer's licence, which is, of course, a great benefit to the Club. Several members intend visiting Sywell aerodrome on April 22 to join in the tea party being given for the opening of the new Club house.

YORKSHIRE AEROPLANE CLUB

Club flying for the week ending April 13 amounted to about 9 hours, including flights to and from Blackpool. About 120 hours of flying have been put up by private-owner members on their own aircraft abroad (four machines in all). A visitor during the week was the Lancashire Club's Avro "Avian" G-AAWI.

YORKSHIRE AIR SERVICES

The flying school to which we referred last week in connection with Com. C. Croxford, R.N., is one for which Mr. W. K. Liversidge, of Yorkshire Air Services, is responsible. It will operate at the Newton House Aerodrome, Londonderry, Yorkshire, which is at the side of the Great North Road some six miles south of Catterick. Hangar accommodation is available; the landing ground has been extended and fuel pumps installed. A fully qualified ground engineer is in attendance. Visiting pilots can be accommodated at the Newton House Hotel, to which we have referred several times. The aerodrome will be opened for inspection by the public on Empire Air Day, May 24.

MIDLAND AERO CLUB

Some 26 hours 25 minutes flying was put in by Club machines last week, including 12 hours 20 minutes dual and 14 hours 5 minutes solo. Bad weather prevented flying on three days. Two more members have to be added to the list of private owners—Councillor Goodby having acquired "Bluebird" G-AABE, and Mr. J. Critchley Graham D.H. "Moth" G-EBST. Many visitors called during the week, including Sir K. Grossley and Maj. Draper.

MARSHALLS' FLYING SCHOOL

Strong winds on several days last week made solo flying impossible. Times for the week were 12½ hours dual and 11 hours solo. The latest School member to become a private owner is Mr. F. W. Denew, who has bought "Gipsy Moth" G-AARE. Mr. David Garnett has made several cross-country flights recently in his Klemm (Salmson). One new member is Mr. H. L. Tudor. Seven machines visited the aerodrome last week, all of which were de Havilland "Moths." Cross-country and air taxi trips were made to Windsor, Hunstanton, Sywell and Heacham.



RIPPED : Our photographer has caught the parachute even before it has completely opened. An instant later Mr. Price was pulled off the platform and floating down to the aerodrome. (FLIGHT Photo.)

National Aviation Day Display

SIR ALAN COBHAM has probably caused more discussion about air matters than has anyone else. He has a flair not only for organisation but also for profitable publicity for anything to which he puts his hands. It is not surprising, therefore, that the third annual National Aviation Day Display, which opened at Dagenham on Saturday, April 14, was a smooth-running and, from the public's point of view, a satisfying spectacle, despite the fact that this was the first display of the year. The crowd was not worthy of Sir Alan's genius for showmanship, but it was, nevertheless, an enthusiastic one, from which a steady stream of people kept the joyriding aeroplanes constantly busy.

Sir Alan does not err by making joyriding the be-all and end-all of his displays. He thinks further than the money

of the moment, and he realises that the only way for aviation to develop is for everyone in the country to be made interested in it. He therefore stages many excellent "turns" which, in the words of the programme, "thrill" the public. In a word, he supplies them with thoroughly good aerial entertainment as well as providing machines in which they can fly. The results of this are far-reaching, as Sir Alan knows, and the more people he gets into the air the happier he is. He is satisfied that they will go away and, to use a hackneyed phrase, "preach the gospel of the air," for the benefit not only of everyone in the aviation industry but also of our country and Empire. One of Sir Alan's aims is to further the establishment of aerodromes throughout the country, and a sure way of doing this is to interest the people of each town and city in air matters. This is one of the objects of the National Aviation Day Display.

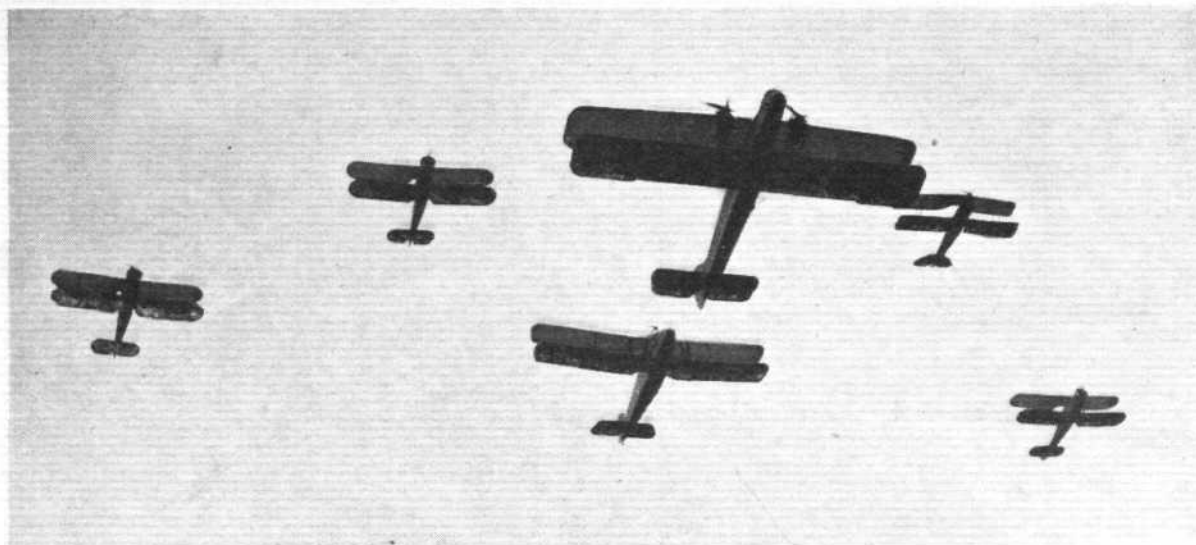
To go through the programme in detail would rather be like telling everyone the plot of a detective novel before they had read it, so will confine ourselves to giving readers some idea of what they may expect when they visit the display, as they will surely do.

The fleet of aircraft used this year are:—Three Avro "Cadets" (Siddeley "Genet"), one Handley Page "Clive" (two Bristol "Jupiters"), one Airspeed "Ferry" (three D.H. "Gipsys"), one Autogiro (Siddeley "Genet"), one Blackburn "Lincock" (Siddeley "Lynx"), one D.H. "Tiger Moth" ("Gipsy"), one Avro 504 (Siddeley "Mongoose"), one glider "Rhön-bussard."

With these machines all sorts of interesting events can be arranged. The "Cadets," which are three-seaters, can equally well carry passengers or they can be used for aerobatic displays. The "Tiger Moth" is fitted with a fuel system suitable for inverted flying, and Mr. Tyson flies it in this manner. The Avro tows the glider, which is piloted by Miss Joan Meakin, and also takes passengers up two at a time for arobatic flights.



FAST TRANSPORT : Sir Alan and Lady Cobham use a Siddeley Special car in connection with their work for National Aviation Day Displays. (FLIGHT Photo.)



A TIGHT FORMATION: Although this was the first display since last year, Sir Alan Cobham's pilots maintained his tradition of efficiency by their excellent formation flying. (FLIGHT Photo.)

The "Lincock," being a single-seater fighter, is especially suitable for high-speed aerobatics, and its value is enhanced as it is fitted with Marconi wireless so that the pilot can broadcast an impression from the air while performing. Apart from these items and others of a similar nature, Mr. Ivor Price does parachute drops both by the "pull-off" method and by a free fall, and the lighter element is introduced by a humorous event staged by Mr. Martin Hearne.

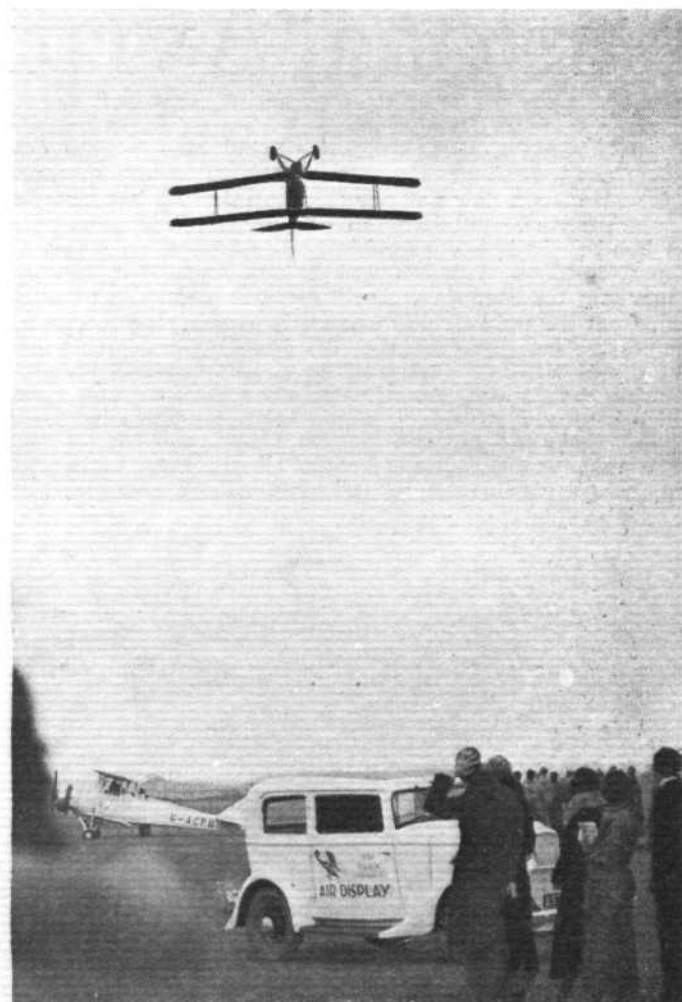
On Saturday the display started with a formation which was really very good, especially in view of the small amount of practice which the pilots have yet had this year. The next event was a demonstration by the Auto-giro, and we suggest that the announcer should have a few words with the pilot of this type of flying machine. He will then learn that his statement that "the rotating blades are not for lifting but only for stabilising" is, to put it mildly, rather wide of fact. Mr. Tyson's displays on the "Lincock" and "Tiger Moth" were clean, but we cannot help deprecating the spirit which leads him to fly so low and close to the crowd, particularly when inverted. An error of judgment or an untoward occurrence under those conditions would produce an accident, doing incalculable harm to aviation as a whole. Mr. Price's judgment was excellent when he made his first "pull-off," and his landing on his feet near the centre of the aerodrome showed his mastery of the technique of parachuting.

Mr. Tyson is the "stunt merchant" of the Display and he performs not only normal, though studiously spectacular aerobatics, but also in special "stunts" like flying beneath a string stretched between two posts and looping over it, and also picking up a handkerchief from the ground by a sprung spike on his wing tip. He is also the pilot who "bombs" those who take part in the humorous event. He is very accurate indeed in this latter, but here again takes, we feel, undue risks in his desire to give the public a good show. Many times he had his aeroplane in such a position that an accident would have been more than likely had his engine failed. The handling of his machine, however, leaves no doubt about his ability as a pilot.

The organisation behind a concern of this nature is astonishing. First there are the pilots: Flt. Lt. H. C. Johnson is the chief pilot and the others are:—Mr. C. W. Bebb, Mr. W. V. Creates, Mr. W. H. Easdown, Mr. J. R. King, Capt. P. Phillips, Maj. H. G. Travers, Mr. G. Tyson and Miss Joan Meakin. The general manager is Mr. D. L. Eskell, and the publicity manager Mr. E. M. Rossiter, while Mr. Ivor Price does the parachute work and Mr. T. Bullmore attends to the microphone. Then, Sir Alan tells us, he has a gate manager with a staff of five and four ground police, ten engineers, six cleaners, three loaders, two electricians, one motor-car engineer, one time-keeper, eight night staff, two camp staff, six publicity men and six in the London office. To transport all this staff around the 163 towns which it is planned to visit this year before September 30, when the tour finishes near London, requires

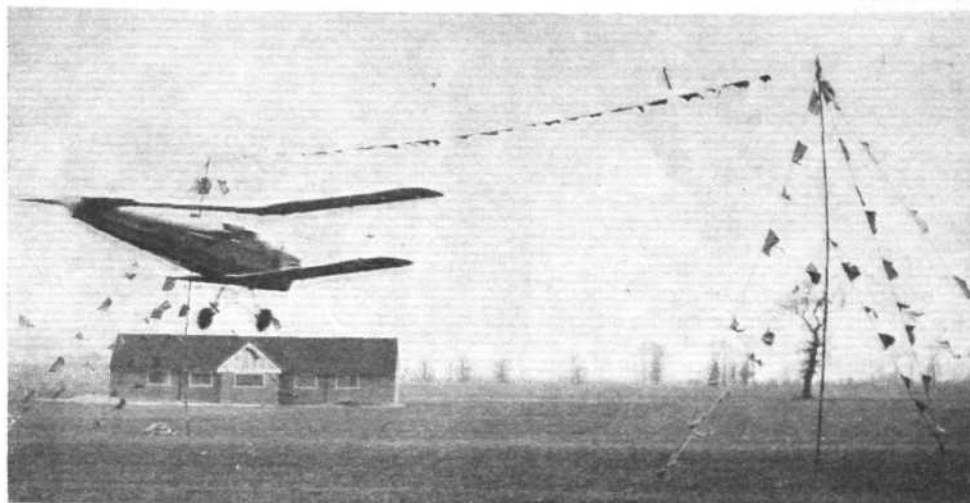
a considerable amount of ground transport, as well as the space in the aeroplanes, and this is provided by 16 Ford vehicles of various sorts—Sir Alan himself uses a Siddeley "Special," the latest 30-h.p., 90-m.p.h., product of the Armstrong-Siddeley motor-car works.

The majority of the staff live in tents which have been made for them by the Dunlop Rubber Company. Wakefields—to judge from the lettering thereon—have evidently had a hand in providing the large amount of screening which bounds the landing grounds. Marconi's have installed their radio apparatus, both in the "Lincock" and the radio van, which latter also houses the loudspeaker



INVERTED: A "Tiger Moth" being flown low and inverted over the spectators at Dagenham. (FLIGHT Photo.)

equipment made by General Electric, using C.A.V. batteries and Osram valves. The aero engines must have reliable ignition apparatus for this work and so K.L.G. plugs are used by the whole fleet. Work of this nature is very hard on the covered surfaces of the aeroplanes, but Titanine dope allows them to be kept out in the open during the whole season without fear of harm. A word must be added about the excellent manner in which the motor cars and vans are painted. This work was done by Multiplex Van Displays, Ltd., and a very fine job they made of it . . . and now, finally, to wind up this recital of the trade interests in Sir Alan's display, we will go and have a cup of tea with Mr. R. West, who is the official caterer, and he does it really well.



THROUGH THE HOOP: Mr. Tyson diving a "Tiger Moth" underneath a cord preparatory to looping up over it. (FLIGHT Photo.)



British Hospitals Air Pageant

"**S** KY DEVILS AIR CIRCUS" is the name given by Air Pageants, Ltd., to this year's British Hospitals Air Pageants which they are managing. Their first display was given at Stag Lane—that aerodrome not yet being in the hands of the builders—on Sunday, April 15. A glorious day, almost like summer, which we hope was a good omen for their success.

This year they are working on a somewhat different plan. They propose, instead of giving a number of free tickets to each hospital, to donate 10 per cent. of the gross takings to a selected hospital in each district. By this means there should be no question of the hospitals benefiting except to a considerable degree.

Stag Lane hardly seems, at first thought, to be a good place for getting money out of people for joyriding, but we imagine that the population around there must after all feel that they want to fly in the aeroplanes of which they see so much, because the crowds on Sunday were really large, and what is more important they queued up for flights.

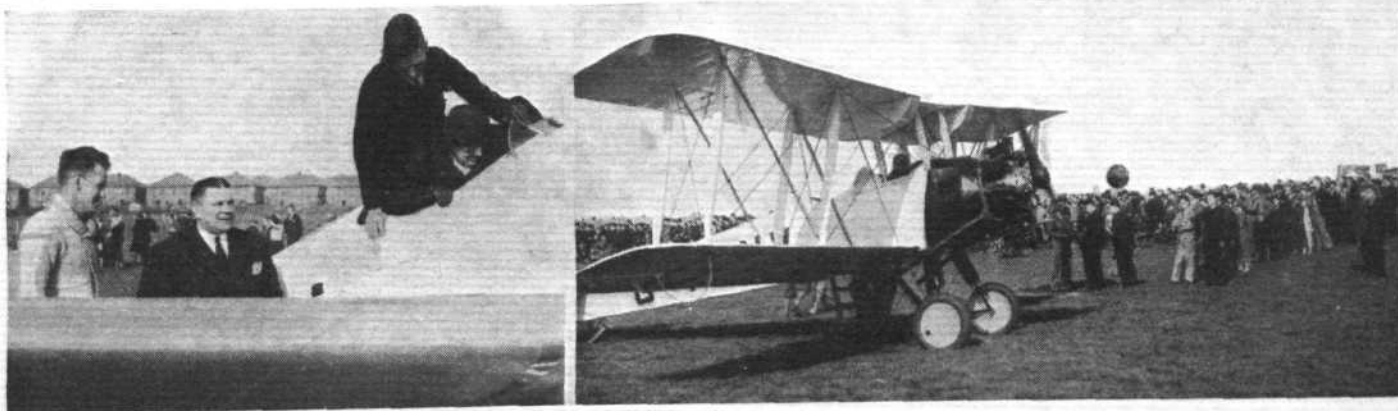
They had quite a wide range of aeroplanes from which to choose. First there was the "Argosy" which Mr. E. B. Fielden, of Air Tours, Ltd., has chartered from Imperial Airways, Ltd. It has been modified to carry 28 passengers, and its size was evidently an attraction, because it did a roaring trade. We gladly accepted the offer of Mr. Fielden to go with him for the first trip, which was

to be a long one over London. What an education it is to fly over a city like that! It seems surprising that there is not a steady trade done, all the year round, from Croydon if from nowhere else. It was rather smoky, so we could not see details very well, but nevertheless the general visibility was good. We hope that there were several thorough surveyors on board. If so, they ought to have realised then, if not before, just how ghastly their rows of so-called Council Houses can be.

Apart from this "giant air liner," as the announcer calls it, there were three Avro 504's (Siddley "Lynx") and one Miles "Hawk," the latter proving a most popular machine. Other machines, which will be used for aerobatics, were a D.H. "Moth" ("Gipsy") and an Avro "Tutor" ("Lynx"). The pilots flying these machine were Messrs. R. Robinson, E. W. Bonar, R. E. Watts, M. E. Hearn, G. Williams, and B. Bulmore.

It is planned to visit over 170 towns during this season, and the tour will finish about the end of September.

Apart from joyriding, a programme of events has been arranged which should more than serve to maintain the interest of the public throughout the whole afternoon. Of the "turns" we saw on Sunday, there is no doubt that the aerobatics of Mr. Bonar stood apart. He performed smoothly and skilfully, but it was a pity that he elected to do all his stuff behind the public, so that they had to turn round. Probably he did so that he



FOR BRITISH HOSPITALS: On the left is Mr. McEwan King and Mr. Leigh Mossley (dark suit) examining the latest three-seater "Hawk." The view on the right shows one of the tightly packed queues of people waiting for joyrides in an Avro ("Lynx"). (FLIGHT Photos.)

INTERESTED: A part of the large crowd which flowed into Stag Lane Aerodrome last Sunday for the British Hospitals Air Pageant opening day. (FLIGHT Photo.)

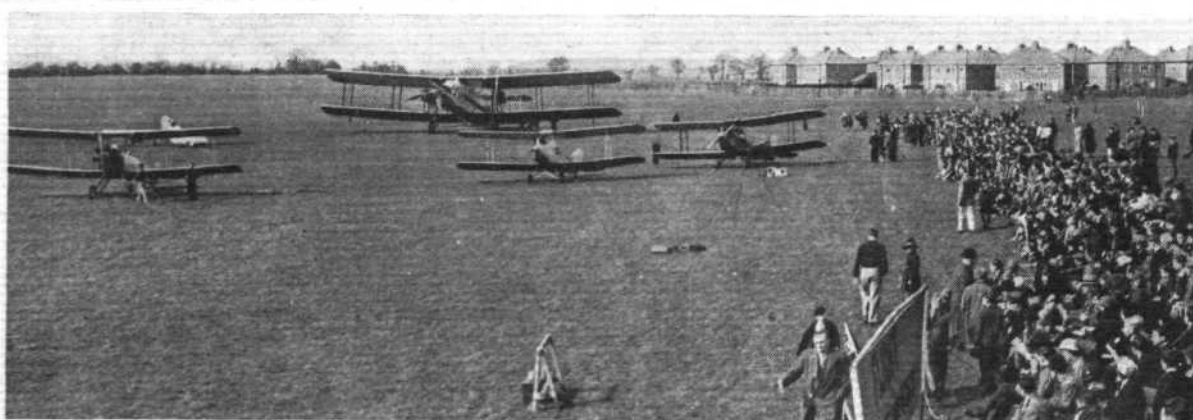
should be clear of the other aircraft which were joyriding, but it was unfortunate nevertheless from the public's point of view.

After the show had been going for some time, Mr. Leigh Mossley, who will be remembered by those in the aviation industry for his connection with the Supermarine Aviation Works some years ago, opened the display. Mr. Mossley was a peculiarly appropriate person, to do so, not only by virtue of his aviation associations, but also because he is now Deputy Mayor of Willesden, and the Willesden Hospital is the one chosen to benefit by this opening display. As we have already said, individual hospitals are to benefit to the extent of 10 per cent. of the gross takings this year instead of the free ticket scheme which was worked last year, and, we hope, Willesden Hospital should benefit from this. Being the very first day, it was only reasonable to make allowance for certain shortcomings in the programme, but this did not appear to affect the large numbers of the general public who came to the aerodrome, and most of whom apparently wished to fly. A few words about the help which the organisation has received would not be out of place at this stage. Once again they are relying very largely on Morris vehicles for their ground transport, and Lord Nuffield has been very generous in this respect.



K.L.G. Plugs are being used exclusively, as are Palmer tyres. The broadcasting and radio equipment, that is not only the transmitter on the ground, but also a receiving equipment in a "Moth" (the same "Moth," incidentally, which Mr. C. W. A. Scott flew when he created a record for the journey between England and Australia in 1932), were the work of the Standard Electrical Engineering Co., of Eastcheap, London, E.C.3. The public address part of their system was certainly adequate as regards volume and at the same time perfectly clear. The radio looked very neat, and the power supply was arranged by a small Petter two-stroke generator unit (Petter engines are made in the same works as Westland Aircraft, so that they still had the lorry engine as a stand-by).

At a later date the fleet will be augmented by an Avro "Tutor," upon which inverted flying and aerobatics will be done, and it is also possible that an Autogiro will be obtained, and finally there is, of course, the inevitable parachutist.



A VARIED FLEET: Joyriders at Stag Lane on Sunday had the choice of a range of machines, from a "Moth" to an "Argosy." The "Moth" on the right of the picture brought Col. J. C. Fitzmaurice as a visitor during the afternoon. (FLIGHT Photo.)

Lord Wakefield at Chelsea

ON Tuesday, April 17, Lord Wakefield paid a presidential visit to the Automobile Training College and the College of Aeronautical Engineering. After a tour of inspection, not only of the combined Colleges in Sydney Street, Chelsea, but also of the recent addition to the automobile side in Filmer Road, the party was taken to College House on the top of Putney Hill, where they were entertained to lunch by Mr. C. H. Roberts, the Principal of the Colleges. Mr. Roberts is well known to our readers, and it needs no words of ours to emphasise the excellent and successful work which he has done in establishing this college. His students are turned out consistently and of the highest class of trained young man which it is possible to obtain, a fact which is borne out by the result of the latest Associate Fellowship examination of the Royal Aeronautical Society, wherein a college student, Mr. R. M. A. Rice, was the top of all England, and eight of those sitting, all of whom passed, out of a total of sixteen, were students.

Among those present at the lunch were Lord Wakefield, President of both Colleges; Kathleen Countess of Drogheda; Lord Howe; Sir Maurice Jenks; Dame Ethel Locke King, the owner of Brooklands; Mr. H. C. Lafone, editor of the "Autocar"; Mr. and Mrs. Mollison; Mr. Nigel Norman, Director of Airwork; Mr. F. Sigrist; Col. and Mrs. Sheldermine; Capt. Duncan Davis; and Col. Etherton.

Lord Wakefield in his speech stated that he considered aviation one of the chief factors in the post-war world. It meant, he said, the end of isolation either in peace or in war, and he believed that the rapid development of civil aviation would effectively break down the social barriers which to-day still made possible fear and mistrust between nations, and which would assist the substitution of friendship for that fear. He expressed his intention of assisting the College in every way he could, and to that end offered an annual grant of £500 during his presidency to provide two full scholarships of 2½ years each for the full College course.

Airport News

CROYDON

TWO American business men, Messrs. Pitman and Johnson, left New York on April 3, landed at Plymouth on April 10, left Croydon by the Imperial Airways African service the following day, and arrived at Kisumu on April 16. They were bound for Katamega Gold Fields, where there is a gold rush, and their object was to corner the drink traffic there, ahead of trade rivals. No doubt they succeeded. London business houses are not always so enterprising, and many of them still send representatives abroad by the modern equivalent of mail coach and sailing packet and then wonder why their competitors are first in the market.

Details cannot be given, but an amusing case of this sort happened quite recently, when a business man, who left Croydon by air at 7 a.m. one morning for a Continental city, returned with a big order in his pocket at about the time the representative of a rival house was setting forth hot-foot to catch the night boat in pursuit of the same business.

Circulation managers and distribution agents of British newspapers visited Holland and Scandinavia last week on a tour of inspection of the K.L.M. organisation for newspaper carriage by air. This business was born and has grown alongside the development of air traffic, and a new habit, that of the daily perusal of British newspapers by foreigners, has grown up. The French, Dutch or Belgian business man who does not find his favourite newspaper from England on his breakfast table will grumble as bitterly as the Briton in similar circumstances. Large and ever-increasing quantities of the leading British newspapers leave Croydon each morning for the Continent by the early morning machines.

Mr. John Masefield, the Poet Laureate, with Mrs. Masefield, left the Airport of London by K.L.M. on April 10 for a holiday in Holland. Mr. Masefield has nothing against flying, though poets are apt to regret that it cannot be done with large white wings against a background of blue sky. Mr. H. G. Wells, whose prophecies of how aviation would develop did not come true, has never forgiven commercial aviation, and does not care for flying.

Some time ago a passenger with a bicycle left Croydon for Cologne by Imperial Airways, Ltd. Last week, after an extensive tour of Europe, he returned complete with bicycle, which, when he had cleared it through Customs, he mounted and rode away.

Two very special consignments of goods left here by Imperial Airways during the past few days—clothing for an Indian Maharaja and motor-car parts for the King of Egypt.

Inward freight of plovers' eggs, strawberries, yeast samples and South African ticks of a highly poisonous nature, for research purposes, together with antique pictures and day-old chicks, show how varied is the range of air freight traffic. Quite a number of pedigree dogs travel out of the country by air, but practically none come in, owing to our six months' quarantine regulation. All the best-known kennel owners export dogs by air now, as it is recognised as very much better for the dogs than boat travel. Amongst kennel owners who export from Croydon—not unnaturally perhaps—are Capt. O. P. Jones, of Imperial Airways, Ltd., who breeds bull terriers,

and Mrs. Leverton, wife of the K.L.M. Croydon manager, who goes in for Cairn terriers.

The *City of Glasgow, G-EBFL*, one of the original "Argosies" of Imperial Airways, Ltd., has retired from air route work after long and faithful service. The machine, minus cloak room and luggage compartment, has been fitted with four extra seats, and now accommodates 26 people for pleasure flying. The "Argosy" left Croydon—not without shedding a tear upon the tarmac, one may suppose—on Saturday, April 14, in charge of a pilot of British Hospitals Air Pageants, and during the summer it will appear in the aerial circus ring over numerous provincial towns.

A preliminary edition of the K.L.M. summer time-table which has just come to hand shows four services in each direction, linking Croydon with Holland and numerous other countries. With the D.L.H. services, this gives five opportunities in the day of reaching Holland from England by air. The first K.L.M. service leaves Croydon at 7 a.m. and the last arrival is at 8.50 p.m., which brings the traveller to London at about 9.30 p.m.

Capt. Andrews, Municipal Airport Officer, Speke, Liverpool, is on a visit of a week to Croydon to study the organisation of the London Terminal Airport. I understand he is to spend a few days in Holland for the same purpose before returning home.

One of the pilots informed me recently that the hares on the aerodrome are increasing in numbers. Several, presumably March hares, were so engrossed in chasing each other when he taxied a big machine out that they took no notice of him until he began to take off. They then ran at full speed in front of him until he overtook and flew over them. There are partridges and pheasants on the aerodrome in fairly large numbers, and the place forms a natural sanctuary for ground game and wild life, in spite of being built round. Somebody informed me that when a large aeroplane visited an aerodrome where such craft are seldom seen, the rooks were in a complete panic. At Croydon the local rooks merely flop lazily out of the way of a "Heracles," and even, if the machine is not heading straight for them, walk away from it. Partridges almost invariably run a few yards and then stand and watch a taxiing machine pass them.

A. VIATOR.

HESTON

ON Thursday, April 12, the Comper "Streak" took to the air on its maiden flight. It is hoped that it will be capable of a speed in the neighbourhood of 200 miles an hour, but no figures are as yet obtainable. (See page 377.)

The Aeronautical Inspection Directorate will now have a resident inspector at Heston, where two offices are being prepared for his accommodation.

Prince Alvaro and Prince Alonso of Orleans-Bourbon, who are in possession of their Spanish pilots' licences, came to Heston on Tuesday, April 10, for refresher instruction with the Airwork School. They are on a holiday from Zurich, where they are studying engineering, and intend to take their British "A" licences before returning to Switzerland at the end of the week.

Clacton landing ground

An amendment sheet to the register of landing grounds of the A.A. informs us that Clacton landing ground cannot be used any longer, as it is being developed as a housing estate.

Newly registered aeroplanes

AMONG the newly registered owners of de Havilland "Leopard Moths" are Sir Philip Sassoon, the Hon. Mrs. E. Montagu, and Mr. A. Henshaw. The Midland Aero Club has acquired three D.H. "Moth Majors," presumably by the way of re-equipment. Air Pageants, Ltd., the company running the British Hospitals Air Pageants, has taken

over a Miles "Hawk" three-seater and Mr. T. C. Place a standard "Hawk." Mr. F. C. H. Allen has acquired a Parnall "Peto," a small seaplane of the type which, it will be remembered, was carried by the ill-fated M.2. Two Boulton & Paul P.71A aircraft are registered, from which it is to be assumed that the two feeder line machines being built for Imperial Airways are nearing completion.

The Bystander flying number

FOR the seventh year in succession the *Bystander* will be publishing a flying number on May 1. It will contain contributions by Lord Londonderry, the Secretary of State for Air, Mr. K. C. Gandar Dower, and Mr. H. E. Perrin, the Secretary of the Royal Aero Club.

Airisms from the Four Winds

To our readers

As this week's issue of FLIGHT is being prepared, we are faced with a few hectic days during which the staff has to pack up all the reference works, stock, current material and equipment of FLIGHT's Editorial and Advertising Offices. This task is, of course, additional to the work of bringing the journal out as usual, and will impose a considerable strain on everyone. We would therefore ask the indulgence of our readers if there should, during the next week or so, be some slight delay in replying by letter to the many who may be writing to us for information and advice. The move to our new offices at Dorset House, Stamford Street, London, S.E.1, will begin to-morrow, and by Monday morning of next week we should be installed and in full working order again.

Capt. Stack home

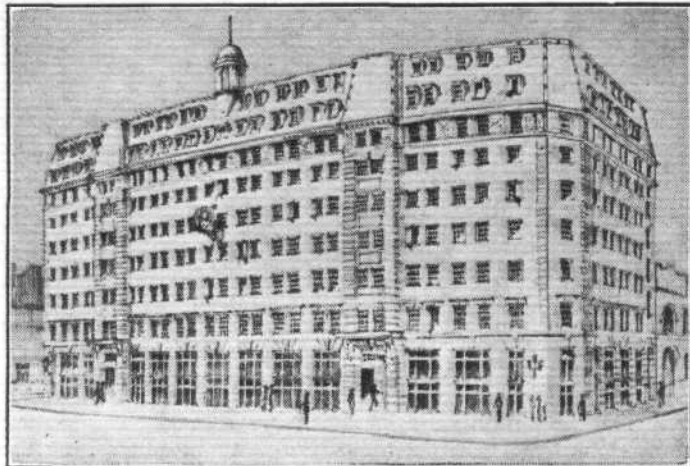
CAPT. T. N. STACK, who, as previously reported, left this country on March 14 with Mr. Clifford for a trip to Africa in a "Leopard Moth," returned early last week. Capt. Stack tells us that the journey through Spain and down the west coast of Africa, both going out and coming back, involved flying through a very great deal of bad weather. Stays of a few days were made at Bathurst both on the way out and on the way back, and a trip of several days was taken to Senegal. The "Dictaphone," whereby both occupants of the machine recorded their impressions, functioned very satisfactorily indeed, and some 35 cylinders were filled with "talk." These impressions, when finally published in book form, should prove of exceptional interest.

Double Tasman crossing by Ulm

MR. CHARLES ULM, accompanied by Mr. Allen (co-pilot) and Mr. Boulton (engineer), left Sydney, N.S.W., on Wednesday, April 11, in his Avro X monoplane *Faith in Australia*, carrying the first air mail from Australia to New Zealand. The mail consisted of 39,000 letters. The machine reached New Plymouth, New Zealand, at 11.36 a.m. on the same day. About 22,000 letters were carried on the return flight, which was made on Saturday, April 14.

"Pegasus" get world's record

It is good news to learn that in the new world's altitude record, established by the Italian pilot, Flt. Com. Renato Donati, on April 11, in a Caproni type 114 biplane, a British-built Bristol "Pegasus" engine was used. This is thus the second time that this famous British engine has held the world's altitude record, the first being that established by Mr. C. F. Uwins, the Bristol test pilot, on a Vickers "Vespa" biplane. Uwins' record height was 13,404 m. (43,976 ft.). Signor Donati is reported by the Royal Aero Club of Italy to have attained a corrected height of 14,433 m. (47,353 ft.). The necessary data have been forwarded to the F.A.I. for homologation. Signor Donati suffered considerably from cold during his flight.



THE NEW HOME OF "FLIGHT": Dorset House, Stamford Street, S.E.1, to which address the Editorial, Advertising and Publishing Depts. of this journal have been transferred.

Duchess of Bedford flying to Senegal

HER GRACE THE DUCHESS OF BEDFORD, D.B.E., accompanied by Capt. R. C. Preston, her personal pilot, left Lympne on April 7 in a D.H. "Puss Moth" for a flight to Senegal and back. The following is the schedule of the flight, for which we are indebted to *Shell Aviation News*:—April 7, Lympne, Orleans; 8, Perpignan, Barcelona; 9, Alicante, Granada; 10, Tangier; 11, Casablanca, Mogador; 12, Agadir, Cape Juby; 14, Villa Cisneros, Port Etienne; 15, St. Louis; 16, Dakar; 17, Bathurst; 19, Port Etienne; 20, Cape Juby; 21, Las Palmas; 24, Mogador; 25, Tangier; 26s. Alicante; 27, Perpignan; 28, Geneva; 30, Paris, Lympne. A report from Tangier states that on April 12 the Duchess left Agadir for Cape Juby on her way to Dakar.

The Prince to fly to Southampton?

ON Monday next the Prince of Wales may fly to Southampton to welcome Prince George when he arrives in the *Windsor Castle* from his South African tour.

Macon to fly to Panama

PREPARATIONS are being made by the U.S. War Department for a flight by the airship *Macon* from Sunnyvale, California, to Panama, this summer.

H.M.S. "Worcester" as "air college"

THE INCORPORATED THAMES NAUTICAL TRAINING COLLEGE, H.M.S. *Worcester*, is seeking permission to train boys who intend to adopt civil aviation as a career. On completing a minimum course of two years in the *Worcester*, and on reaching the age of 18, a cadet would qualify for the *Worcester* Air Certificate and would proceed to Air Service Training, Ltd., at Hamble. The scheme has received the approval of the D.C.A., the Air Ministry, the Board of Trade, the Royal Aeronautical Society, and the Air League of the British Empire.

A South African survey

AERIAL photography is proving to be an ever-increasing and important factor in surveying and economic development. Geologists are developing their own technique for interpreting the geology from aerial photographs, which, although final prospecting must be made on the ground, greatly simplify and reduce the work. H. Hemming & Partners, Ltd., of 22, Queen Anne's Gate, S.W.1, through their associated company, Geological Air Surveys, Ltd., have decided to make an air survey of the Rand for geological purposes. A minimum area of 2,000 square miles of the Witwatersrand Reef will be covered by lines of vertical photographs taken in such a manner as to enable geological indications, where apparent on the surface, to be studied in the stereoscope. By this method the ground is seen standing out in perspective and appears to the examiner as a perfect scale model. Already a great deal of valuable information has been obtained in the Rand and other mining areas from air photographs, and it is expected that the air survey of the entire main reef



THE ALTITUDE RECORD: Renato Donati, who has just captured the world's altitude record for Italy.

will secure valuable information on the geology. Mr. Norman Roberts, who has done a large amount of air photography in South Africa, will carry out the air survey operations, which, it is anticipated, will be completed by the middle of July. While H. Hemming & Partners, Ltd., are making the air survey for their own purposes, the air photographs will be available to the mining industry, and the topographical data secured from them should be useful to the South African Government Department of Topographical Surveys for mapping purposes. The whole area will be covered by lines of overlapping vertical photographs taken at about 7,000 feet above the ground, that is to say, at an average height of about 13,000 feet above sea level.

Lord Londonderry's stormy flight

THE MARQUIS OF LONDONDERRY, Secretary of State for Air, and Lady Mary Stuart, his 13 year old daughter, flew, on Thursday, April 12, from Romford to Aldergrove aerodrome, near Belfast, in the new Avro 642 *Marchioness of Londonderry*, flown by Sqd. Ldr. Mallet. The trip was made in 3 hours 35 minutes, one hour less than the scheduled time, in fog, snow and sleet.

Staniland and Coupe Mondiale contest

At present it is not certain that Flt. Lt. C. S. Staniland will represent Great Britain in the Coupe Mondiale aerobatics contest which is to be held at Vincennes aerodrome on June 9 and 10. If he should compete, however, he will use a Fairey "Firefly" IIm single-seater fighter fitted with Rolls Royce "Kestrel IIs" engine.

A steam driven aircraft

A REPORT has been received from Germany of a steam driven aeroplane which is under construction at the Klingenberg works, near Berlin. The designer of the machine, which is intended for economical long distance flying, is Herr Huettner, chief engineer of the Klingenberg Electricity Works. Herr Huettner claims that he has succeeded in solving the problem of obtaining a satisfactory power/weight ratio by using a revolving boiler combined with a steam turbine. The fuel used will be oil gas. Two airscrews will be employed. The following are the main theoretical data applying to the aircraft: range 60 to 70 hours non-stop, speed 230 m.p.h. at ground level, 260 m.p.h. at 29,000 ft., ceiling 43,000 ft., climb to 29,000 ft. 30 min., disposable load 2,240 lb., power 2,500 h.p., length 66 ft., span 108 ft. Up to the present very little information regarding the machine has been released, and only the mechanics engaged in the construction of the aircraft, and General Goering, the Minister for Air, know the full details. Curious visitors to the Klingenberg workshops have been charged with espionage. In March last year an article in the Czechoslovakian newspaper, *Prager Tagblatt*, which gave some details of the aircraft, led to the arrest of the Berlin correspondent of that journal.

Last of Chelyuskin survivors rescued

THE last six survivors of the wreck of the icebreaker, *Chelyuskin*, who were marooned on an ice floe off the Siberian coast, were rescued, together with their sledge dogs, by three aircraft on Friday, April 13. We will recall briefly the story of the *Chelyuskin* disaster and the subsequent rescue of those on board. On September 17, 1933, she took off by her aeroplane a party of scientists from Wrangel Island. After sailing for about 500 miles she became trapped in the ice. Professor Schmidt, who was in command of the expedition, sent wireless messages to the mainland stating that there was constant danger of the *Chelyuskin* breaking up. On February 14 the vessel was crushed by the ice and foundered, everyone on board taking to an ice floe. Ten women and two children, one of which was born on the *Chelyuskin*, were rescued by air on March 5. Two days later the hut, which the castaways had built on the ice floe, was torn in two through the cracking of the floe. Constantly fighting against arctic storms which were raging along the Siberian coast, some Soviet airmen, Lapidiefsky, Levanietsky, Molokoff, Kamanin, Slipnieff, Vodopianoff and Doronin, managed to rescue the remainder of the survivors and flew them back to the mainland. The Soviet Government has fully realised the daring of the airmen, and is conferring upon them a new Order, "Hero of the Soviet Union." They will also be awarded the "Order of Lenin" and given a bonus of a year's pay. The "Order of the Red Star" will be awarded to the members of the scientific expedition in addition to a bonus equal to six months' pay.

It is proposed to erect a memorial commemorating the expedition in Moscow.

The King's Cup race

AGAIN this year the race for the King's Cup will start and finish at Hatfield aerodrome. The race will be flown on two consecutive days, July 13 and 14, and will be a handicap, the minimum at which machines will be handicapped being 110 m.p.h. The race will be flown in four rounds, two rounds each day. The length of the course for first and second rounds will be approximately 250 miles each, the third round 200 miles, and the final 100 miles. There will probably be eight heats in the first round, four heats in the second round, two heats in the third round or semi-final, and a final. The first four machines placed in each heat will pass into the next round. The entry fee is £10, and must reach the offices of the Royal Aero Club not later than 5 p.m. on May 18. Late entries at double fee will be received up till 5 p.m. on May 30.

For the King's Cup

SIR CHARLES ROSE has placed an order with Phillips & Powis, Ltd., of Reading, for a Miles "Hawk" with a "Gipsy Six" engine. We imagine that a single-seater resulting from this combination should make a most excellent machine for this class of race.

Col. Fitzmaurice to fly in MacRobertson race

COL. JAMES C. FITZMAURICE, who was a member of the crew of the *Bremen* when she made the first east to west Atlantic crossing by air, is to be chief pilot of a machine which Mr. Joseph McGrath, Managing Director of the Irish Hospitals Sweepstakes, is to enter for the MacRobertson England-Australia Race. Col. Fitzmaurice is at present in London considering the selection of a suitable aircraft for use in the race. Before making a final decision, it is probable that he will go to the U.S.A. to study high-speed aircraft with long range which are being built.

The National Aeronautic Association of the U.S.A. and the Australia Race

WE have received from the National Aeronautic Association of U.S.A. a circular which states at some length that a recent ruling from London bars American aeroplanes which bear the "R" licence of the Dept. of Commerce from entering for the MacRobertson race. The N.A.A., which is the representative of the F.A.I. in the United States, remarks that it believes "that this tightening up of the entrance requirements for the speed contest five months after the supposedly final regulations were issued might be construed by many pilots in this country to mean that the British were endeavouring to bar them from this contest, fearing that they would be able to outperform British pilots in British-built aircraft." The facts are that no machines have been barred. Regulation 5 of the contest rules says that "each aircraft shall bear a certificate from its country of registration that it conforms substantially to the minimum airworthiness requirements of the I.C.A.N. normal category, etc." If the U.S. Dept. of Commerce issues such a certificate to any aircraft, it will be accepted without question by the Royal Aero Club. The responsibility lies with that Department. There is no question whatever of the Royal Aero Club "barring" any category of entrant. There may be some explanation of the action of the N.A.A. in issuing this circular (which has not been received officially by the R.Ae.C.), but, on the face of it, it looks like a publicity attempt to make the Royal Aero Club of the United Kingdom look unsporting in the eyes of the world.

New Zealand and MacRobertson race

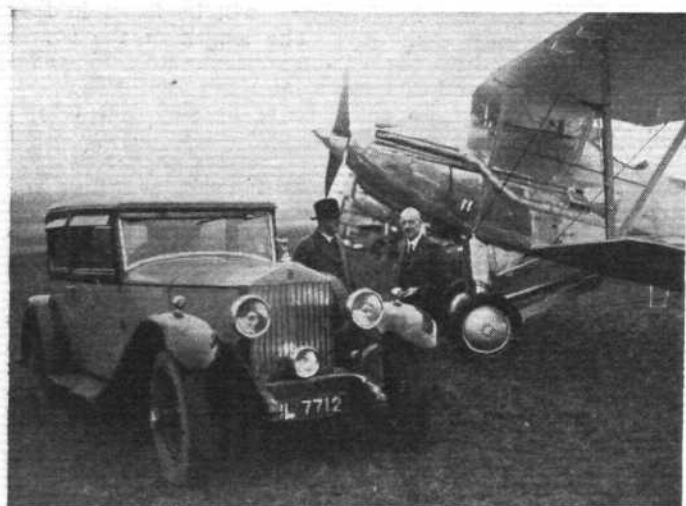
MOST of the aero clubs in New Zealand have rejected proposals to enter officially for the England-Australia race. They feel that funds would be better used for the development of local aviation. Individual New Zealanders may, however, enter for the race.

A situation vacant

M. MAX COSYNS, who was formerly an assistant to Professor Piccard, is preparing for a stratosphere flight and requires, to assist him, a young man "with first-class scientific knowledge and no fear." M. Cosyns is at present preparing for an ascent into the stratosphere to be made in May. The flight will start from the banks of the Meuse, in the Ardennes. The gondola of the balloon to be used is of aluminium, is 7 ft. 2 in. in diameter and has walls about 0.13 in. thick. M. Cosyns claims that he has discovered new methods of examining the cosmic rays.

The Industry

A "Rolls-Royce" of Cars



ROLLS-ROYCE USERS: Wearing a hat is Mr. Lappin, who travels in a Rolls-Royce car on the aviation business of Rolls-Royce, Ltd.; alongside him is Flt. Lt. P. W. S. Bulman, chief test pilot to Hawkers, who, as can be seen in the background, fit Rolls-Royce engines to their aeroplanes. (FLIGHT Photo.)

WHEN you talk of anything and you want to say how good it is, it is a common form of comparison to say that it is the "Rolls Royce" of that particular article. Meaning, of course, that it stands supreme in its class. What, therefore, is the criterion when it is a Rolls Royce car itself that is under discussion?

We suppose that the only thing to say is that it really lives up to its name. That's rather trite, and certainly does not give a true impression of what such a car is really like.

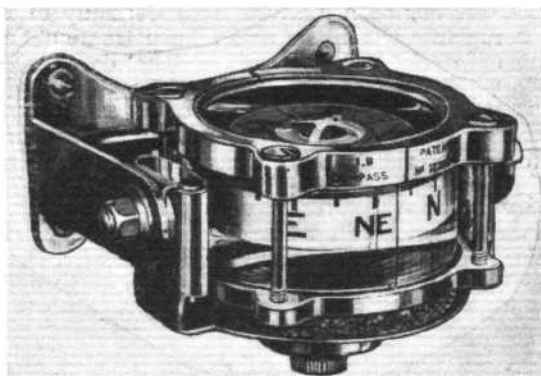
Not long ago we were able to borrow from Rolls Royce, Ltd., one of their latest 25-h.p. cars fitted with a low, but very comfortable, saloon body. We had a lot of ground to cover, as we had mapped out a round of visits of aerodromes and flying clubs which we found in the end put our mileage up to nearly 300 for the day, despite the necessary time spent during our visits. There are not many cars other than sports cars, pure and simple, in which we could have done a journey like that in perfect comfort the whole time, but the Rolls did it in a superb manner and left us perfectly fresh at the end. Needless to say, it was unobtrusively fast and 65 or 70 was easily held when desired, but the outstanding points were those which lessen fatigue and make driving absolute pleasure. The comfort, the steering, the road-holding qualities, these too combined when cornering, the ease of gear change, the silent yet impressive acceleration—those are points

which it is impossible to criticise when the car you are talking about is a Rolls Royce. We are almost tempted to say that in bad weather a car like this is perhaps a faster and better way of travelling about the country than is flying... but that would be unfaithful to FLIGHT's creed!

An Unusually Useful Gadget

THERE are gadgets, and gadgets. Fitting gadgets in motor-cars is often looked upon as a vice, and the "gadgetee" comes in for a lot of criticism. Some fittings are, however, so useful that gadget in its generally implied meaning, ought not to be applied to them. One of these is the I.B.E. compass supplied by Smiths, of Great Portland Street, London, W.1.

We have never had such a valuable accessory in a car before. The occasions upon which it proves its worth are simply innumerable. In fog, in strange towns and even in the open country, it is always coming in handy for preventing us going out of our way. With an instrument like this—and the I.B.E. is a thoroughly reliable scientific instrument which can be corrected with corrector magnets in the ordinary manner—it is possible to travel right across strange cities, without asking the way, if the compass



FOR DISCERNING MOTORISTS: This shows the Smith's I.B.E. motor car compass. A neat and accurate instrument of great value.

bearings of the points one enters it and wishes to leave it are known. At night it is very easy to lose one's bearings, but a quick glance at the I.B.E. restores one's sense of direction at once.

Air-minded motorists will find it particularly useful for checking the lie of the land at aerodromes, finding the direction of the wind, and, indeed, for innumerable other uses; in fact, once it has been fitted, we cannot imagine anyone ever doing without it.



AVRO'S WOODFORD STAFF: A. V. Roe & Co., Ltd., have their own aerodrome at Woodford, near Manchester, and there they test and service their machines. The large number of aircraft they are now turning out necessitates a staff of considerable size. Here they are, in front of the new Avro 642 sixteen-seater, with Mr. F. B. Tomkins (right), one of the firm's test pilots, who is in charge at the aerodrome. (FLIGHT Photo.)

NEW MARCONI EQUIPMENT

As Fitted on Imperial Airways
"Scylla" Aircraft

AS briefly mentioned in our description of the Short "Scylla" published in our issue of April 5 last, the Marconi wireless installation includes a type A.D.41A/42A set, which is a new type of Marconi equipment.

This new Marconi equipment follows very closely the design of the medium-wave portion of the well-known A.D.37A/38A combined medium- and short-wave set which is installed in the whole of the Imperial Airways fleet of "Atalanta" class aircraft.

It therefore represents the most up-to-date practice in aircraft transmitting and receiving equipment operating on medium waves, and, although a new equipment in this form, has behind it the successful experience of the A.D.37A/38A in all parts of the world.

The transmitter and receiver can be installed either as one unit or as two separate units to suit the accommodation available in any type of aircraft.

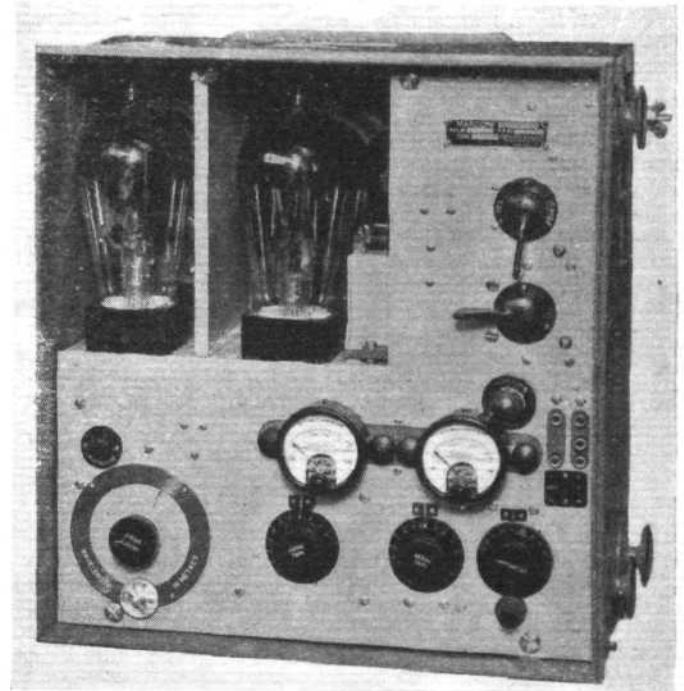
The wave-range of both transmitter and receiver is 500-1,000 metres, and to facilitate the operation of the set quick wave switching is provided for on four wavelengths, namely, on 600 metres and on any three predetermined wavelengths in the band of 850-950 metres. The instruments are also calibrated in metres throughout their range.

The transmitter, which employs two magnifier valves with a power to the anodes of approximately 160 watts, is suitable for working on both telephone and telegraphy (continuous wave and interrupted continuous wave) on either fixed or trailing aeriels.

The weight of the complete transmitting and receiving equipment is approximately 45 kilogrammes (99 lb.).

Arrangements have been made whereby the instrument can be readily interchanged with the A.D.37A/38A installation should short-wave working be at any time required.

Provision has also been allowed for the installation of wing-coil apparatus for "homing" as an aid to navigation.



WIRELESS ON THE "SCYLLA": Marconi medium-wave telegraph-telephone set Type A.D. 41A/42A to be fitted in the new Imperial Airways "Scylla" class aircraft.

All about a simple course calculator

SIMPLICITY and cheapness are two vital factors which have hitherto not been connected with Course and Distance Calculators. In FLIGHT for September 7, 1933, however, we described at length the Goudime Calculator, which not only had these desirables, but had, in addition, many other things about it which made it the best instrument we had seen for the average pilot. This calculator has now been renamed the Simmonds-Goudime Course and Distance Calculator, and is marketed by Simmonds Aerocessories, Ltd., of 55, Turnmill Street, London, E.C.1. That firm has also issued an admirably compiled booklet to go with this instrument which, in easily understood language, explains most fully the method of using it. Full examples are given, and it is pointed out that the calculator can be supplied engraved either in inches or the metric scale and, if desired, they may also be engraved in foreign languages.

A new "Magnetite"

M.G.'s have added a new model, to be known as the M.G. "Magnetite," "N" type, to their range for the forthcoming season. This model will include such improvements as a wider track, larger body with special rubber mountings and an engine developing more horse-power. This "Magnetite" will be available in three open-body styles and an Airline Coupé. The wonderful successes achieved by M.G. cars during the past year speak well for the new machines which embody improvements as a direct result of racing.

An announcement

WE have received the following announcement from London, Scottish & Provincial Airways, Ltd.:—"It has

recently come to our notice that a firm of agents is offering, on behalf of a company whose name somewhat resembles our own, positions as lady secretary, ground engineers, traffic manager and branch managers, provided an investment of up to £1,000 is made with the company. We shall be grateful if you will grant us the privilege of announcing in your columns that we are neither conducting, nor contemplating, any negotiations on the lines set out above."

Air Transport and Sales to Heston

AIR TRANSPORT & SALES, LTD., who have been operating for some time at Hayling Island and also at 19, Denman Street, Piccadilly, are shortly opening a sales office in the Traffic Hall at Heston. Mr. Ronald Malcolm has joined the company and will represent them at this airport. All types of aircraft are dealt in and secondhand machines can be taken in part exchange for new ones.

Flying Tadpoles

It is not often that toys can be scientifically instructive as well as amusing. We have just had the pleasure of handling one in the form of a small model aeroplane (8-in. span) which will fly round a medium-sized room, rising from the floor in a steady spiral climb and descending again gradually until it alights on its landing wheels in truly realistic fashion. This little model, known as the "Tadpole," is manufactured by Lines Bros., Ltd., of Morden Road, S.W.19 (makers of the well-known FROG models) and marketed by Hamley's of Regent Street. It can also be made to loop, roll and perform most of the usual aerobatics by making the necessary adjustments to the control surfaces. Complete in box with geared winder it costs but 2s. 6d.—a good investment for both young and old.

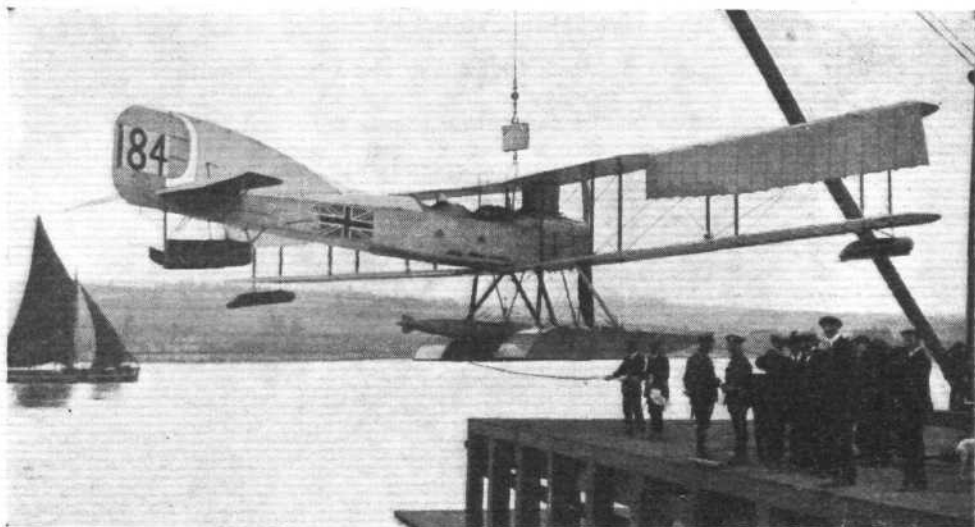
Book Reviews

The Royal Air Force: A Concise History. By Capt. A. O. Pollard, V.C., M.C., D.C.M. (Hutchinson & Co., Ltd.) Obtainable from FLIGHT Office, Price 18s. 9d. post free.

THE history of the Royal Air Force starts, for all practical purposes, with the great war, and this makes the Force unique among the fighting Services of the world. All except five squadrons were formed after the outbreak of the war, and they built up a fighting record before they had had a chance to establish a peace-time tradition. The course of the war itself was very greatly affected by the participation of the new arm, for never before had generals been able to photograph the enemy's dispositions before drafting plans for a battle. The history of the air arm in the war is therefore a very important part of the war records. An official history is being prepared, of which the fourth volume has just been published, and other volumes will doubtless follow in due course. This great work is too large and detailed for the ordinary reader, and so a concise history of the Royal Air Force is to be welcomed.

Capt. Pollard, V.C., has supplied what was wanted. He has condensed his story into 282 pages, which is a very moderate amount. The book is illustrated by 24 photographs, the majority of which were taken by FLIGHT, and by 11 sketch maps. We reproduce one of the photographs on this page. The author knows his subject (though he did not win his Victoria Cross in the air), and his style is easy. He has covered his ground well and has missed little. On the whole his book is welcome and deserves high praise. It should certainly be widely read. The early chapters are particularly good, for he sets forth very well the different objects which the R.F.C. and the R.N.A.S. set before themselves at the outset. The initial problem of the R.F.C. was simple, for it was just reconnaissance. That of the R.N.A.S. was much more complex, and Capt. Pollard describes the various activities of that Service very well.

The development of the air arms of the Navy and the Army depended on three factors, policy, method, and equipment. Capt. Pollard, as we have said, deals well with the factor of policy. He is less good in describing the methods by which each policy was carried out. He does deal with the tactical method by which General Trenchard set about carrying out the policy laid down for the R.F.C., namely, protecting British reconnaissance and artillery machines by sending offensive patrols of fighters far across the lines to engage the Germans at a distance from the infantry battle. It is on the technical factor that Capt. Pollard is least satisfactory. He does not lay sufficient stress on the technical reasons why aircraft were not of greater service to the Grand Fleet, namely, the weakness of the seaplane floats in those early days and the slowness in designing satisfactory flying decks on ships, to say nothing of our backwardness in developing rigid airships. In the land war, he mentions the "Fokker menace" of 1915, and also tells that it was countered by the production of the D.H.2 and the F.E.2b, but he does not explain why those aeroplanes could beat the Fokker monoplane. The new types introduced during the war are faithfully recorded, up to the time when the "Camel" and the S.E.5a finally held and beat the Fokker triplane and the "Albatros D.3." Much depended on such qualities as the arrangement of the guns, the quick turn to the right of the "Camel," the power of the S.E.5a to break off a fight by diving so steeply that the Germans could not follow without danger of tearing off their wings, and such like. When Richthofen fought and killed Maj. Hawker, V.C., the result was not due to



AN ILLUSTRATION FROM CAPT POLLARD'S BOOK: A Short seaplane (225-h.p. Sunbeam engine). (FLIGHT Photo.)

the superiority of the German as a pilot, but to the superiority of the early "Albatros" over the D.H.2. The latter had not a fixed gun firing through the propeller as the "Albatros" had. The varying fortunes of the German and the Allied air arms depended so very much on the layout and design of the machines and engines, that a history of the Royal Air Force which does not lay great stress on such points seems to propound a mystery without solving it.

In the chapter "Afterwards," a very succinct account is given of some post-war expeditions of the Royal Air Force. The next three chapters deal with flying in general, and are hardly necessary in a history of a fighting Service. The last chapter gives accounts of the 19 Victoria Crosses won by members of the flying Services in the war, and is a distinctly valuable addition to this book.

"Amateur Adventure." By K. C. Gandar Dower (Rich & Cowan). Obtainable from FLIGHT Office. Price 5s. 6d., post free.

MR. K. C. GANDAR DOWER and Mr. Angus Irwin flew to India in the former's "Puss Moth." What they saw and did is written in "Amateur Adventure," by Mr. Gandar Dower. There have been many books written as the result of trips made by pilots, and more often than not the result is either a blatant attempt to procure publicity for further flights—though admittedly that does not always detract from the value of the book as such—or else the book is a chronicle in the form of diary which shows little imagination on the part of the author. In the present case the story has received entirely different treatment. Undoubtedly Mr. Gandar Dower has a lot to learn, including writing and style, but he has nevertheless produced an amusing record of his adventures with Irwin which nearly everyone will recommend their friends to read.

"Piffing Poems." By Pauline Gower. (Ingpen & Grant, Ltd.) Obtainable from FLIGHT Office. Price 1s. 3d., post free.

PIFFLING is a misnomer for the collection of poems by Miss Pauline Gower, published recently. They are not perhaps in the highest poetical style, but we don't suppose that they are meant to be. Some of them are parodies of well-known poetry, in an aviation vein, but they are all very readable and amusing. Miss Gower is a "B" licensed pilot who, working together with her Ground Engineer, Miss Dorothy Spicer, has probably done more hard work joy-riding than any other woman pilot in the country, and from her varied experience has gained an insight to the mentality of pilots which has enabled her to make these "Piffing Poems" well worth getting.

THE ROYAL AIR FORCE

London Gazette, April 10, 1934.

General Duties Branch

Air Commodore C. L. Courtney, C.B., C.B.E., D.S.O., is appointed Director of Staff Duties, Air Ministry (April 3); Group Capt. A. W. Tedder is appointed Director of Training, Air Ministry (April 4); Pilot Officer on probation D. W. H. Gardner is confirmed in rank (March 27).

The follg. Acting Pilot Officers on probation are confirmed in rank and graded as Pilot Officers (March 3):—P. H. Dunn, D. N. J. P. Leggett, R. H. S. McConnell, P. A. McWhannell, H. M. T. Neugebauer, J. C. Northey, F. Rump, J. B. P. Thomas, H. M. W. Thomas-Ferrand, G. T. Toland, J. E. Townsend.

Acting Pilot Officer on probation E. H. Wheelwright is graded as Pilot Officer on probation with effect from Oct. 6, 1933, and with seny. of Aug. 25, 1933. (Substituted for *Gazette*, Oct. 24, 1933): Flt. Lt. L. T. Carruthers is dismissed the Service by sentence of General Court Martial (April 5).

Medical Branch

Flt. Lt. T. V. O'Brien, M.B., Ch.B., is promoted to rank of Squadron Leader (Jan. 1); F/O. W. Hall, M.B., Ch.B., M.R.C.S., L.R.C.P., is promoted to rank of Flight Lieutenant (March 27).

Dental Branch

F/O. V. H. Weeks, L.D.S., is promoted to the rank of Flight Lieutenant (April 5).

ROYAL AIR FORCE RESERVE SPECIAL RESERVE

General Duties Branch

P/O. T. R. Vickers is confirmed in rank (Feb. 15).

AUXILIARY AIR FORCE

General Duties Branch

No. 601 (COUNTY OF LONDON) (BOMBER) SQUADRON.—P. R. Foley is granted a commn. as Pilot Officer (March 20).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Squadron Leaders: H. S. Kerby, D.S.C., A.F.C., to No. 504 (County of Nottingham) (B) Sqdn., Hucknall, 4.4.34, to Command, *vice* S/Ldr. C. T. Anderson, D.F.C. G. T. Richardson to No. 32 (F) Sqdn., Biggin Hill, 26.3.34, to Command, *vice* S/Ldr. D. L. Blackford.

Flight Lieutenant J. E. M. Bainbridge, to No. 209 (F.B.) Sqdn., Mount Batten, 19.3.34.

Flying Officers: C. M. Champion de Crespigny, to No. 1 Armament Training Camp, Catfoss, 28.2.34. L. R. S. Freestone, to No. 3 Armament Training Camp, Sutton Bridge, 1.3.34. G. E. Sampson, to No. 201 (F.B.) Sqdn., Calshot, 19.3.34. F. G. L. Smith, to Station H.Q., Donibristle, 29.3.34.

Pilot Officers: M. D. Thunder, to No. 209 (F.B.) Sqdn., Mount Batten, 19.3.34. The following Acting Pilot Officers are posted for flying training

Comrades of the Royal Air Force: Prince of Wales becomes Patron

H.R.H. THE PRINCE OF WALES, who holds the rank of Air Marshal in the Royal Air Force and is also Hon. Air Commodore in Chief of the Auxiliary Air Force, has graciously consented to be the patron of the "Comrades of the Royal Air Force." The Association which exists to foster a spirit of comradeship among the past and present members of the Air Services was given official recognition by the Air Council last year. Its President is Marshal of the Royal Air Force The Lord Trenchard, G.C.B., D.S.O., D.C.L., LL.D.

Zeebrugge-Ostend Reunion Dinner

ADMIRAL OF THE FLEET SIR ROGER J. B. KEYES, Bt., G.C.B., K.C.V.O., C.M.G., D.S.O., M.P., will preside at the Zeebrugge-Ostend annual reunion dinner to be held at the May Fair Hotel, Berkeley Square, W.1, on Monday, April 23, 1934. Notices have been posted to all officers (whose addresses

on 3.4.34:—To No. 3 Flying Training School, Grantham:—R. M. Atkin, J. B. Black, J. B. Brolly, D. H. Clinch, F. K. N. Cresswell, H. L. Dawson, A. H. Donaldson, J. Duncan, P. F. Handcock, W. H. Kearney, L. M. Laws, K. N. Lees, R. B. Middleton, B. G. Morris, A. D. Murray, R. J. C. Nedwill, J. S. O'Brien, G. V. M. O'Reilly, J. Pilling, F. H. Roberts, L. W. Saben, A. W. Simons, J. A. Sutherland, J. E. Thornton, R. N. J. White, H. de C. A. Woodhouse. To No. 5 Flying Training School, Sealand:—E. R. Bitmead, R. J. B. Burns, D. O'C. Byng-Hall, D. E. Cattell, R. C. Crawford, C. J. S. Dickens, C. A. H. Evans, P. Fleming, H. Georgeson, A. J. Guthrie, E. G. Hall, J. D. C. Joslin, J. H. Kitson, A. R. Leggate, W. C. A. Lodge, R. C. Meares, D. J. North-Bonford, G. S. A. Parnaby, G. I. Pawson, L. H. Pomeroy, P. H. R. Saunders, H. M. Starr, J. M. Thompson, E. A. Verdon-Roe, R. D. G. Wight, I. S. Williams.

Medical Branch

Flying Officer V. D'A Blackburn, to Med. Training Depot, Halton, 2.2.34, on appointment to a Short-Service Commn.

are known) who took part in the operations of April 23 and May 10, 1918. Any officer who has not received a notice is requested to communicate with Lt. J. C. Keith-Wright, D.S.C., 2, Crosby Square, E.C.3, the honorary secretary of the dinner committee.

Gordon Shephard Memorial Essay, 1933

THE Gordon Shephard Memorial Prizes for the year 1933 have been awarded by the Air Council as follows:—

1st Prize, value £35. For the essay written by Flt.-Lt. E. J. Kingston-McCloughry, D.S.O., D.F.C., p.s.a., Royal Air Force Depot (on Course at Staff College, Camberley).

2nd Prize, value £25. For the essay written by Wing Com. G. C. Pirie, M.C., D.F.C., p.s.a., Station Headquarters, Tangmere.

3rd Prize, value £15. For the essay written by Wing Com. R. H. M. S. Sandby, M.C., D.F.C., A.F.C., p.s.a., Staff College, Andover.



DEATH OF AIR VICE-MARSHAL F. R. SCARLETT

WE regret to record the death, on Sunday, April 15, at Honey Combe, Andover, of Air Vice-Marshal Francis Rowland Scarlett, C.B., D.S.O., R.A.F. (retired). Most of the aeronautical public will remember Air Vice-Marshal Scarlett as the commander of the High Speed Flight of 1927 which went to Venice for the Schneider Contest, and, thanks to good team work, to the excellence of the Supermarine S.5 and the Napier racing engine, and to the fine piloting of Flt. Lt. S. N. Webster, brought the trophy back to this country. That was the first occasion on which the Royal Air Force had undertaken the challenge for the trophy. There were no precedents to guide anyone, and naturally a great deal depended on the Air Officer who was in supreme command of the team. Air Vice-Marshal Scarlett was at that time A.O.C. Coastal Area, and was therefore the obvious officer to take charge of a team which competed in seaplanes.

Air Vice-Marshal Scarlett, though his father was a Dragoon Guards officer, chose the Navy as a career. Perhaps it was inherited instincts which induced him afterwards to pass through the Army Staff College at Camberley as a naval student. Perhaps it was also his cavalry ancestry which made him a keen hunting man. He was born in 1875 at Uckfield, Sussex, in due course passed through the *Britannia*, and in 1895 received his commission as sub-lieutenant. During his naval career he saw active service in Africa, and in 1904 received the African general service medal. In 1913 he learnt to fly, and was given R.Ae.C. certificate No. 468. Then he was sent to the Central Flying School at Upavon, the commandant of which was a naval officer, Capt (afterwards Admiral) Godfrey Paine. The Royal Naval Air Service was then in its infancy. Commander Scarlett was

appointed to H.M.S. *Hermes*, under Capt. G. W. Vivian. In 1914 he was promoted and given command of the R.N.A.S. headquarters at Sheerness as Inspecting Captain of Aircraft. Under him were the landplane training station of Eastchurch and the seaplane training station at Grain. Just before the outbreak of war a great naval review was held at Spithead, and all the seaplanes in the Service were assembled at Calshot under the command of Capt. Scarlett.

In 1915 the whole of the R.N.A.S. was placed directly under the Director of the Air Division at the Admiralty (Capt. Murray Sueter), and Capt. Scarlett joined his staff to carry out inspection duties. In January, 1916, he was sent to the East Mediterranean in command of ships and units, and while there he was granted the Distinguished Service Order for services in reconnaissance and bombing flights. He was also made a Commander of the Greek Order of the Redeemer. In 1918 he returned to the Admiralty, and after the Armistice he was made a C.B.

On transfer to a permanent commission in the R.A.F., Scarlett was given the rank of Air Commodore, and in January, 1924, was promoted to Air Vice-Marshal. In 1919 he was given the important command of Halton. In 1924 he was A.O.C. Coastal Area, thus rising to the head of what represented his old Service, the R.N.A.S. In 1928, while Sir John Salmond was on deputation in Australia, he temporarily commanded Air Defence of Great Britain, and conducted the Air Exercises of that year. Next year he was given command of the Fighting Area. Then he went to Cairo to command the Middle East—the last phase of his varied and useful Service career. He retired in December, 1931. Air Vice-Marshal Scarlett was married and left three sons, one of whom is a Flying Officer in the R.A.F.

BRIEFLY

MR. FRED SIGRIST, Managing Director of Hawker Aircraft, Ltd., who has been on holiday in Honolulu, has now returned to England.

MR. C. E. WARD, Consultant on general aeronautical matters, has moved his office to Inveresk House, Aldwych, W.C.2. (Temple Bar 2577).

MR. E. J. HART (late editor of *Aircraft* of Melbourne) has established a Press bureau for information about the London-Melbourne International Air Race at 56, Fleet Street, E.C.4. (Cen. 2423).

MR. J. D. NORTH, Chief Designer to Boulton & Paul, Ltd., of Norwich, who has been on a visit to the United States, is now back again.

MR. F. G. MILES will probably be demonstrating a Miles "Hawk" at the Geneva Show starting on April 27.

SIR ALAN COBHAM segregates his joyriding queues by having his aeroplanes all painted in different colours. The tickets are issued in corresponding colours and flags of the same colour denote the place of the queue.

MR. LEIGH MOSSLEY, who will be remembered for his connection with Supermarines some years ago, is now Deputy-Mayor of Willesden. He opened the British Hospitals Air Pageant at Stag Lane last Sunday, as that particular display was in aid of Willesden Hospital.

STANDARD TELEPHONES & CABLES, LTD., have moved their aircraft radio section from Hendon to Southgate.

MR. W. E. GOODAY, chief of the Technical Department of the Vacuum Oil Company, has been elected to the Council of the Institution of Petroleum Technologists. He is the first original student to obtain membership of the Council.

MISS PAULINE GOWER and MISS DOROTHY SPICER, of Air Trips, Ltd., will be joyriding throughout the season from Hunstanton. They will also undertake taxi work.

New President of F.B.I.

At the annual meeting of the Federation of British Industries, held in London on Wednesday, April 11, Lord Herbert Scott, Director of Rolls-Royce, Ltd., was elected president.

A.I.D. annual dinner

THE Aeronautical Inspection Directorate Technical Staff Association will hold its annual dinner at the Holborn Restaurant (King's Hall Suite) on Friday, April 27, at 6.30 p.m. for 7 p.m.

"Petit Parisien" world cup for aerobatics

A CONTEST for this International Trophy will take place, under the supervision of the Aero Club de France, in Paris, Vincennes Aerodrome, on June 9 and 10. Each National Club, affiliated to the Fédération Aéronautique Internationale, is entitled to be represented by two pilots. 275,000 francs will be awarded in cash prizes and a cup to the value of 10,000 francs will be presented to the winner of this International Trophy. Closing date of entries April 30, 6 p.m. Entry fee 1,000 francs per aircraft, returnable to the entrant on presentation of the aircraft at Vincennes and the take off in the first heat. Pilots intending to compete should notify the Royal Aero Club, 119, Piccadilly, London, W.1, from whom particulars can be obtained.

The feminine aerobatics competition

THE Royal Aero Club has been advised of the Feminine Aerobatics Competition to take place at Vincennes on April 29, 1934, for which prizes amounting to 20,000 francs are offered.

British Pilots and the Vincennes meeting

THE Royal Aero Club has received an invitation for British pilots to take part in the Vincennes Air Meeting on May 20 and 21, 1934. British pilots wishing to take part are requested to communicate with Monsieur Maurice Finat of the Société pour le Développement de l'Aviation, 30, Rue Gaulaincourt, Paris 18.

Copenhagen Aircraft Exhibition

THE 2nd International Aircraft Exhibition will be held in Copenhagen from August 17 to September 2, 1934. All inquiries should be addressed to the General Commissioner, Den 2^e Internationale Luftfartsudstilling, 31A, Amaliegade, Copenhagen K.

IMPORTS AND EXPORTS

	Exports	
	1933.	1934.
	£	£
Jan.	82,963	255,437
Feb.	79,357	69,623
March	126,008	131,608
	288,328	456,668

Imports and Re-exports.—From January 1, 1934, considerable changes have been made involving re-classification of a number of articles. Under this re-classification apparently the value of aircraft imports and re-exports have been lumped with imports of locomotives and ships. It is therefore no longer possible to give the figures for aircraft imports or re-exports.

PUBLICATIONS RECEIVED

Taschenbuch der Luft-Flotten, 1934. Edited by Dr.-Ing. Werner v. Langsdorff. J. F. Lehmanns Verlag, Paul-Heyse-Str. 26, Munich, Germany. Price Lwd. Mk. 10.

Aeronautical Research Committee Reports and Memoranda: No. 1562. *Torsigraph Investigations on a Radial Engine with and without a Spring Hub, with some reference to Damping*. By B. C. Carter, N. S. Muir and H. Constant. July, 1932. London: H.M. Stationery Office, W.C.2. Price 1s. 6d. net.

Instruments. Aeronautical Engineering Series—Ground Engineers' Text-books. By R. W. Sloley. London: Sir Isaac Pitman & Sons, Ltd. Price 5s. net.

British Airways. By C. St. John Sprigg. London: Thomas Nelson and Sons, Ltd. Price 2s. 6d. net.

The Airman's Year Book, 1934-5. Published under the authority of The Royal Aero Club of the United Kingdom. Edited by Sqd.-Ldr. C. G. Burge. London: Sir Isaac Pitman and Sons, Ltd. Price 3s. 6d. net.

NEW COMPANIES REGISTERED

THORKILDSEN ROTARY VALVE CO., LTD.—Capital, £8,000 in £1 shares. Acquiring the whole or any part of the right, title and interest in, or appertaining to, the protected inventions relating to the "Thorkildsen Patents for Rotary Valves" for motor, aero, diesel and other like engines, and to carry on the business of manufacturers and dealers in rotary valves, etc. Directors: Samuel F. Aspell (chairman), Eagle House, Friar Lane, Leicester. Raymond P. Castle, Hope House, Syston, Leics. John C. Roff, address not stated.

SOUTHERN AND CENTRAL AIR LINES, LTD., 7, Park Lane, W.1.—Capital, £100 in £1 shares. Objects: The business of aerial transportation of passengers, merchandise, mails, etc., and any other goods; to organise, establish, work and maintain carrying services by air, and to carry on the business of aeronautical engineers, owners and licensees and hirers of air and road transport, etc. First Directors:—Wm. B. Brady, 10, Oxford and Cambridge Mansions, W. (director Aircraft Exchange & Mart, Ltd.). Cecil J. Pooley, 24, Norfolk Square, W.2. Secretary: Norman G. Pelham.

G. Q. PARACHUTE CO., LTD., 17, Stoke Road, Guildford, Surrey.—Capital, £2,000 in £1 shares. Aeronautical experts and consultants, manufacturers of and dealers in aeroplanes, seaplanes, flying boats, airships, balloons, parachutes, gliding machines, etc. Directors:—Raymond Cuthbert Quilter, Bawdsey Manor, Woodbridge, Suffolk. Reginald F. Dagnall, 17, Stoke Road, Guildford, Surrey. Arthur C. Dickinson, 17, Manor Drive, Surbiton, Surrey.

WELLER & ELLIOTT, LTD., Aerodrome Garage, Kingsbury Road, Kingsbury, N.W.9.—Capital, £1,000 in £1 shares. Acquiring the business of automobile and general engineers, aircraft engineers and garage proprietors carried on by Wm. V. Weller, Ernest S. Elliott, Leonard Gutteridge and Thos. J. Williams at Aerodrome Garage, Kingsbury Road, N.W.9, as "Weller and Elliott." Directors:—Wm. V. Weller, 315, Kingsbury Road, N.W.9. Ernest S. Elliott, 28, Vincent Gardens, Dollis Hill, N.W.2. Leonard Gutteridge, 7, Highfield Close, Roe Green, N.W.9. Thos. J. Williams, 72, Kenwyn Drive, Cricklewood, N.W.2, all automobile engineers.

ECONOMIC AIR SURVEYS, LTD.—Capital £3,000 in £1 shares (2,500 preference and 500 ordinary). The objects are to secure and carry out in any country or countries contracts for making by photography or otherwise aerial or ground surveys for the purpose of surveying, prospecting, examining and exploring any part of the world, and to cause to be made examinations, explorations and investigations of any nature as to the agricultural, mineral, or other wealth thereof; to undertake the management, operation or agency work of air lines, etc. Directors: Harold Hemming, 87, Belsize Lane, N.W.3; James Horsfall, 43, Fitz James Avenue, W.14. Solicitors: Dod, Longstaffe and Fenwick, 16, Berners Street, W.1.

INCREASE OF CAPITAL

PORTSMOUTH, SOUTHSEA AND ISLE OF WIGHT AVIATION, LTD. (165, High Street, Ryde, I.W.).—The nominal capital has been increased by the addition of £5,000 in £1 ordinary shares beyond the registered capital of £17,500.

PATENT AERONAUTICAL SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. (The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

APPLIED FOR IN 1932

Published April 19, 1934

- 23,351. SOC. DU CARBURATEUR STRATOS. Method for the automatic control of aviation engines. (407,693.)
35,293. C. H. KRUGER. Attaching and releasing gear for aeroplanes. (407,791.)

APPLIED FOR IN 1933

Published April 19, 1934

- 12,929. E. G. BUDD MANUFACTURING CO. Flying-boats. (407,835.)
14,309. G. TRICAU. Shock-absorbers for parachutes. (407,838.)